SEPTEMBER 2, 1974

Commerce Today

EPIC Gives Systematic Approach To Energy-Saving

Page 5

FROM THE
SECRETARY

A Major Weapon To Fight Inflation

Energy is a common equation in our economy, essential for the production and distribution of practically all our goods and services. From 1950 to the present, our total annual energy consumption has doubled. The enormous amounts of energy consumed by this nation are helping fuel inflation, described by President Ford as our number one problem. The growing demand for energy continues to force up the cost of fuels. This, in turn, means that the prices of consumer goods, which require energy to produce, also keep rising.

How do we break the built-in insatiability of such a situation? One way is to change our ways of doing things, as a doctor might advise an overweight patient to change his eating habits. Energy conservation is still a critical must. If this pulpit has been abandoned of late, as energy shortages appear to have eased, we must return to it and continue to hammer the message home.

Reliance on foreign oil will grow to fully 50 percent of our requirements by 1985 if we do nothing to limit our energy consumption. This growing dependence will be accompanied by prices that have already pushed up the costs of consumer goods and hurt our balance of payments. In the last year alone, the average price per barrel of imported oil has increased fourfold, and we now import about 30 percent of our petroleum.

Many of the nation's businesses and industries have already set a good example by adopting sound energy conservation practices. Nevertheless, much more can be done. That is why the Department of Commerce and the Federal Energy Administration have jointly developed a new Energy Conservation Program Guide for Industry and Commerce. The guide can be used by small and medium-sized firms as well as by corporate giants. It will be especially useful to those firms that have not yet started a conservation program or lack the resources to hire outside experts.

We know that this new federal energy system works. Commerce's National Bureau of Standards, where the system was developed, has itself cut electrical consumption by 12 percent and heating fuel consumption by 18 percent by applying the principles of this system. Savings in annual fuel costs: nearly $400,000.

Our estimates are that the system, if fully implemented nationwide, could result in energy savings by industry alone that would account for more than 4 percent of all energy used nationally. That adds up to the energy equivalent of 1.4 million barrels of oil a day or $2 billion a year. By the 1980s, savings in energy consumption resulting from adoption of the system would amount to at least 10 percent of national energy use.

These are conservative estimates. Achieving the potentials offered by this system means more than dialing down thermostats and hitting light switches. In many cases, it involves extensive retrofit of existing buildings, revisions in industrial processes and significant changes in transportation. But they are energy savings that can be achieved without reducing business activity.

Energy conservation is not a panacea for all the ailments of our economy; it is a tool, and an important one. No matter how aggressively we pursue the goals of Project Independence, they will not be achieved without a simultaneously strong national commitment to energy conservation.

To the people who run our nation's business and industries—which together account for two-thirds of our energy usage—severe energy shortages conjure up the images of closed plants, unemployment, and consumers deprived of necessary goods and services.

I urge them all to become acquainted with the national Energy Conservation Program Guide for Industry and Commerce, and to apply its principles where they can. (*See story on page 5.*)

Energy conservation is good business. It is an important weapon in the fight against inflation. Further more, those who practice it are practicing good management by working for increased competitiveness and profits.

Rogers C. B. Morton

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Published biweekly by the U.S. Department of Commerce, Washington, D.C. Annual subscription rate $29.80 ($7.45 additional for foreign mailing, $5.75 additional for domestic air mailing). Single copy $1.15. Make checks or money orders payable to Superintendent of Documents and mail to Superintendent, U.S. Government Printing Office, Washington, D.C. 20402, or to any U.S. Department of Commerce District Office.

All subscription inquiries and address changes should be sent to the Superintendent of Documents, at the above address. This is the central distribution agency for U.S. Government publications.
Microfiche copy available at $1.45 per issue from National Technical Information Service, Springfield, Virginia. 22151. Other inquiries should be sent to the U.S. Department of Commerce, 14th Street and Constitution Avenue, Washington, D.C., 20230.

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COVER: *Commerce's National Bureau of Standards reduced its energy consumption substantially using the guidelines described in the story beginning on page 5. Looking at the EPIC report in front of Standard's steam and chilled water generating plant are John N. Brewer, Jr., (left) chief, supply and plant division; and James S. Powers, plant foreman.*

Inflation Bites Into Business Investment; High Interest Rates Curtail Expansion

Economic Highlights is prepared by the Office of the Assistant Secretary for Economic Affairs.

Surveys taken in 1973 and 1974 indicated that businessmen would continue to increase their outlays for new plant and equipment through this year. These investment dollars have been eroded rapidly by inflation, however, and the quarterly increases in real terms have dwindled over the past year. Furthermore, tight money and high interest rates have greatly reduced prospects for any substantial upswing in investment spending in the immediate future.

Thus, both inflation and an inflation remedy—restraint of the money supply—have sharply reduced the economic impetus from business capital investment, which was considered one of the strongest sectors in the economy a few months ago.

Availability of funds apparently has been a major factor in determining the level of capital investment in recent quarters. As illustrated in the first two charts, business spending increased this year as expected in dollar terms but the quarterly rises were tiny after adjustment for inflation.

Most sizable fixed investment programs involve substantial lead times and, with accelerating inflation, firms are encountering difficulty in finding funds to sustain programmed investment. Growth in the money supply has been restrained for more than a year, and internally-generated funds have not been sufficient to meet investment needs.

Profits have been increasing steadily. However, a large proportion of the gains in recent quarters have been "inventory profits"—the increment that accrues to a firm from price increases on goods it holds in inventory. In many cases these funds must be used to maintain inventories and thus are not available for purchasing new facilities. Further, additions to inventories in the fourth quarter of 1973 were a record and there were sizable accumulations in the first two quarters of this year.

Because of the long lead times on many capital outlays, the full effect of tight money may not yet have shown up in the current-dollar figures on fixed investment; the impact is now primarily affecting business decisions and most likely will be reflected in future expenditure levels.

General business conditions also have a strong bearing on business investment decisions. Typically, fixed investment begins declining only after a slowdown in the economy has been under way for some time. Economic growth slowed markedly in the second quarter of 1973 and turned into a sharp decline in early 1974.

Thus, increased demand for new facilities probably will become evident some time after there is a change in financial and general business conditions. The oil embargo spurred some plant and equipment programs and dampened others and so far there has been virtually no net impact.

Government anti-pollution standards also increased capital investment needs although a few firms may have become discouraged by the added costs of ensuring that there would be minimal pollution of air and water. According to a recent survey, business spent $4.9 billion for new plant and equipment to control air and water pollution in 1973 and this figure is expected to rise to $6.5 billion this year. This represents 5.8 percent of total plant and equipment expenditures for 1974.

Facility utilization

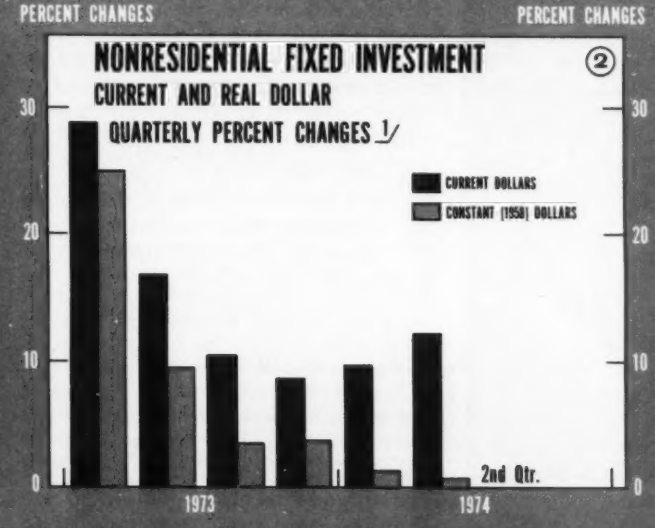
Businesses must consider how well their current facilities are being utilized and how much sales are likely to increase in making fixed investment decisions. However, this is only one of several major factors. A survey by the Commerce Department's Bureau of Economic Analysis shows no strong correlation between a high rate of utilization of facilities and expenditures for new facilities. In other words, other factors such as the corporation's financial situation, financial markets in general, and general business conditions may be even more important than utilization rates in determining the timing of plant and equipment purchases. Some investment outlays are undertaken to replace obsolete facilities rather than to increase capacity.

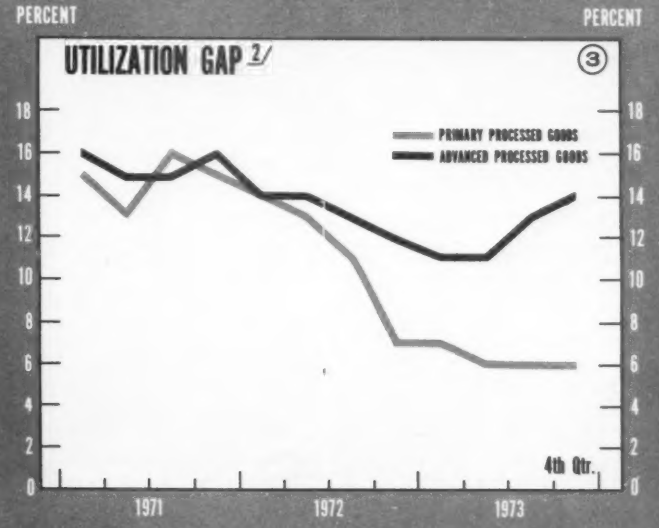
The chart entitled "Utilization Gap" shows how many percentage points manufacturers in two major categories are operating below their preferred rate of production. The two categories are primary processed goods and advanced processed goods, and it is in the former that supply problems have been reported from time to time over the past two years.

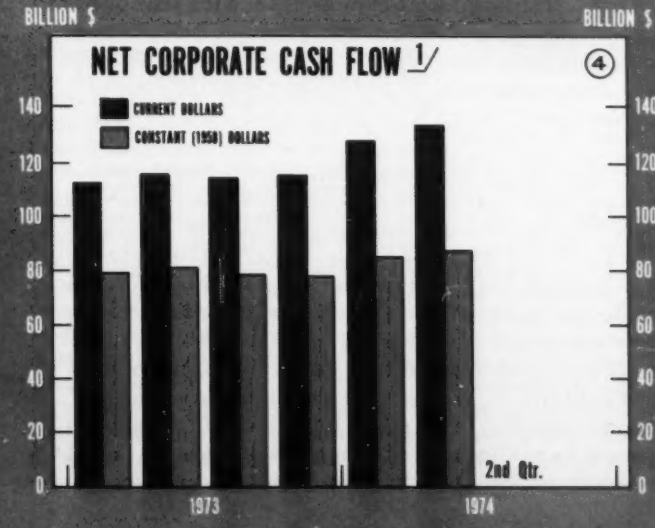
The final chart on the opposite page shows the percentages of unusued capacity by manufacturers of primary processed goods and advanced processed goods. In this case "capacity" is taken as the rate at which manufacturers prefer to operate. The survey taken by BEA showed that capacity utilization has been rising over the past three years but it is still below the peak level reached in 1967.

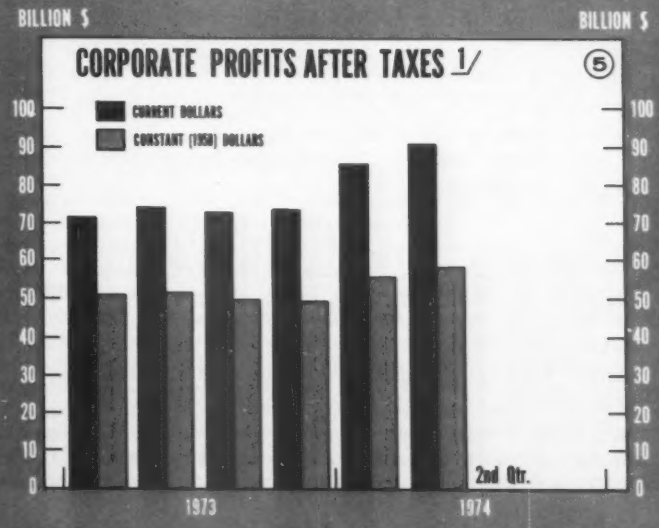
It should be emphasized that in discussing utilization rates and most other factors related to fixed investment, the aggregates and averages mask great variations among industries. For example, the BEA survey showed that total manufacturing capacity increased 28 percent from 1966 to 1973; yet capacity in the rubber industry jumped 70 percent compared with only six percent in aircraft manufacturing. Also, most figures on capacity utilization deal only with manufacturing, which is the easiest to measure, and do not include utilities, mining, retail stores, and other sectors that represent large amounts of fixed investment.

With utilization rates relatively high, an increasing need for anti-pollution equipment, and strong demand for new sources of energy, capital investment probably will increase substantially in the years ahead. In the present and for the immediate future, however, capital investment, like other economic activities, has been distorted by inflation and constrained by financial conditions and, in some cases, by inability to obtain capital goods.









All data seasonally adjusted

1/ Annual Rates

2/ Based on the manufacturers' preferred operating rate as a measure of capacity

Newsmemo

U.S. manufacturers have been operating at 83 percent of capacity. This average for all producers covers an eight-year period to last December. Total manufacturing capacity increased 28 percent during that time. The petroleum producers top the list with 95-97 percent rates in the most recent reported months, while aircraft producers are at the other end of the scale--70 percent. Commerce's "Survey of Current Business" has begun a quarterly series of reports on use of manufacturing capacity.

Uncertainty about the fire hazards involved in the use of foamed plastic products may slow demand for them. The Federal Trade Commission is requiring 25 makers of these polyurethane and polystyrene products to alert users to possible fire dangers. In the FTC consent order is a unique requirement for a $5 million research program by industry to determine the flammability of these products, widely used as construction materials.

The challenging frontierland of business --the introduction of new products or start-up of new ventures--is even more testing today. The capital crunch must be reckoned with (also, materials shortages). To cope with cash shortages and high interest rates many firms are postponing development of new products. Few new manufacturing businesses are being launched since venture capitalists fear that additional growth funding will not be available later when needed to sustain the new firm. Most venture capital is now being used to provide second stage financing to protect successful original investment.

The slump in housing sales has not brought a decline in home prices. The volume of housing sales fell 8.3 percent in June below last year's corresponding total, the ninth time in 11 months that a decrease has been reported. But the median cost of an existing house was $32,860 in June, compared to $29,220 in June 1973--an increase of 12.5 percent.

Purchasers of industrial heating equipment are meeting delays due to heavy demands. New orders for such equipment are up 24 percent over the first half of last year. New order backlogs of foundry and steel mill furnaces are at 12 to 18 months or longer, the highest levels since 1966. Delays in industrial heating deliveries hinder modernization and expansion programs of the foundry and steel industry and contribute to continuing shortages of castings and steel mill products.

The customers are there but the shelves are bare. That is why the sales curve for farm machinery dipped recently. The implement makers are currently producing at capacity, but delivery times are four to six months in length due to strong sales in the past two years. Even if serious drought conditions prevail in the farm belt, causing some crop failures and reduced farm income, the farm machinery industry will continue to operate at full capacity through 1975 just to restore a normal inventory.

CAGNE? The acronym is unfamiliar because it is new. It stands for Commerce Action Group for the Near East, a recently formed unit within the Commerce Department that will pull together all resources relevant to economic relations with the Near East nations. Secretary Dent has defined its mission: "To serve as the single focal point for the total Department of Commerce response to the dramatically changed economic situation and significant new business opportunities in the Near East."

The Spanish speak Sears, Roebuck language. Motivated by the size of California's Spanish-speaking population--about 12 percent of the total--Sears will begin this fall providing consumer and credit information in Spanish in its 72 California stores. The decision followed a six-month experiment in three selected stores in which 18 percent of customers with Spanish surnames chose non-English contracts and literature. Other California retailers may follow Sears' lead to stay competitive.

Commerce Today
Vol. IV, No. 24
September 2, 1974

Out Of Energy-Saving Ideas? Here Are Some EPIC Suggestions

Your firm has turned off all unnecessary lights . . . the thermostat has been turned down for winter heating and up for summer cooling . . . the company trucks are faithfully observing the new 55 mile-per-hour speed limit. So now what do you do?

Many energy-conscious companies around the country, especially the small and medium-sized ones, are in this position. They've taken all the obvious energy-saving steps and much of the fat has been trimmed off; now they are getting dangerously close to muscle and are looking for suggestions for further energy savings that will not cripple their operations.

Fortunately, many other companies throughout the country have already passed this stage, and are willing to share their knowledge and experience. More than 50 companies, consultants and trade associations have contributed to . . . "the most practical and down-to-earth document on energy conservation which I have seen." The words are those of the chairman of the University of Tennessee's Department of Engineering Science and Mechanics, and he's talking about the Energy Conservation Program Guide for Industry and Commerce (EPIC).

UNDERLINING THE POINT—*Commerce Secretary Frederick B. Dent signs Robert Massey's copy of new guidebook for energy conservation by industry. Massey, who works at the National Bureau of Standards, was a co-author of the book, which was released at a recent meeting of the National Industrial Energy Conservation Council.*

Quick start-up

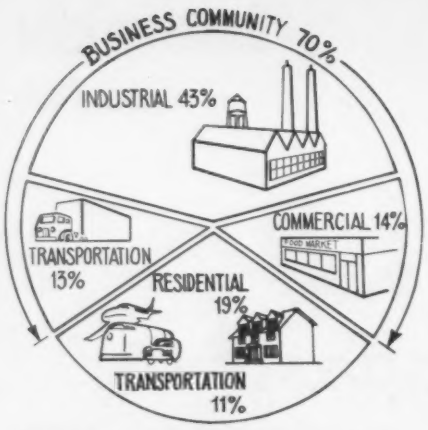
"A firm embarking on the EPIC energy saving system could, with top management commitment, have its program well under way in two weeks," says Commerce Secretary Frederick B. Dent. "Initial measures might include simple changes in plant maintenance and operation practices, such as planning production schedules to minimize energy use and improving quality control to eliminate waste in processing.

"Next an audit and survey of energy wastes should be completed and resulting savings reported within three to six months. Within twelve months from inception of the program, participating firms should expect energy savings of at least ten percent," according to Dent.

Compiled at Commerce's National Bureau of Standards, EPIC is designed to give companies a step-by-step procedure for setting up and following through on a systematic program of energy conservation. The idea developed as a result of a number of conferences and workshops on energy conservation in 1973 at which smaller and intermediate-sized companies requested specific information on how to conduct energy conservation programs. NBS, in cooperation with the Federal Energy Administration, undertook to collect information on successful energy conservation programs and to organize it for use by companies seeking to improve their energy efficiency. EPIC outlines the steps in an energy conservation program and suggests specific ways to reduce energy use.

EPIC focuses on two areas: the key steps in implementing an energy conservation program, and compiling a list of energy conservation practices already employed successfully by industry and commerce.

The implementation plan is outlined and illustrated by a series of letters, memoranda and intra-company correspondence in a hypothetical small plant. These documents are based on the actual experience of several firms in implementing successful



Industry is the biggest U.S. energy consumer.

energy conservation programs. The hypothetical firm has two production departments, a utilities department, maintenance department, and an administrative services department. Suggested methods and forms for recording and reporting plant survey data and tracking the progress of the program are included.

EPIC emphasizes the importance of top management commitment to energy conservation and of assigning responsibility for coordinating energy conservation to a top level, knowledgeable individual. The guide provides the coordinator with a plan for surveying plant energy use and information on the various techniques of energy flow measurement. Where additional or outside help may be required, sources of assistance are listed in a special section.

The guide provides a checklist of 180 energy conservation opportunities suggesting ways for reducing or using energy more efficiently.

The checklist suggestions run the gamut from the very simple to the most complex, and are divided according to usage in: building and grounds (recover heat from waste hot water or lower light fixtures in high ceiling areas, for instance); electric power (increase electrical conductor size to reduce distribution losses); steam (turn off steam tracing during mild weather, substitute hot process fluids for steam); other utilities (eliminate compressed air drives from permanent installations); heat recovery and confinement (use waste heat from hot flue gases to warm spaces); combustion (calculate and plot boiler efficiency daily); scheduling (go to three or four days of around the clock operation rather than running one or two shifts per day); materials handling and shipping (use gravity feeds wherever possible); process changes (convert from batch to continuous operation); commercial practices (use light color finishes on ceilings, walls, floors and furnishings).

The suggestions have been reported from many different sources and, where appropriate, both the contributor and the company which supplied the case are listed.

As new examples of energy conservation actions become available, they will be published periodically as supplements.

The checklist items are, of course, intended to help conserve energy. However, each should be carefully evaluated for its applicability to a given situation. Under certain circumstances, some of them could prove counterproductive and actually result in a loss of energy.

In some cases existing equipment will have operating limits which must be considered. For example, excessive insulation on a furnace roof can confine too much heat, overheat the refractory, and cause failure of the roof.

The checklist is supplemented with case histories illustrating the actual dollars and cents savings these techniques have brought to firms. These case histories provide yardsticks against which other firms can measure their own progress.

For example, one detailed description shows how a meat packing plant in the Midwest achieved a fuel savings of $21,600 a year by heating fuel oil to the proper temperature before burning.

Another example illustrates how a 4800-square foot slipcover plant reduced its electric bill by $6,200 per year simply by turning down the air conditioning during non-working hours.

Installing steam traps on a group of presses for molding phonograph records was the principal factor in one firm's saving 87.8 BTUs ($105,000) per year. At the same time, output per press was raised from 40 to 90 records per hour.

Based on experience

All cases reported are either based on a specific industrial and commercial experience or a combination of several experiences. The reports include graphs, tables and/or sample calculations, as well as a brief description of the circumstances and the action. The calculations are intended to illustrate key steps in estimating energy savings potential and associated cost savings. They are not complete engineering analyses. The cases have been checked for internal consistency but do not contain all of the factors which will affect a decision on implementing the suggestion.

Readers will note that costs of fuel, steam, and electric power vary from case to case. In some instances, low energy costs are reported because the projects were actually implemented two or three years ago. The energy costs in hypothetical examples were chosen arbitrarily to reflect current trends. Even so, the guide recognizes that energy costs vary widely from region to region. Therefore, if the reader is interested in the economic impact of a particular technique in a specific application, appropriate local unit costs can be used to revise the cost calculation.

A special section on engineering data lists some energy conversion factors, fuel heating values, fuel oil grades, viscosity, combustion constants, temperatures of waste heat gases and properties of saturated and superheated steam.

The financial evaluation section points out that many measures which might have been unprofitable or merely marginal investments before the price of fuels and electricity began their rapid increase are now economically justifiable. The section then reviews some of the basic tools of financial

From The Reviews . . . .

". . . one of the finest and most complete documents on energy conservation for industrial users I have seen to date."

Energy Conservation Coordinator
Northern Illinois Gas. Co.

". . . extremely well conceived and well written document . . . it should provide an excellent means for an industry or commercial firm to either start an energy program or add to the efficiency of their existing program."

Chairman of the Board
Aluminum Company of America

". . . should be part of any corporation's operation . . . This publication would have a major impact on any energy conservation program."

Group Finance Division Manager
American Management Assn.

". . . particularly applicable to many small or medium sized manufacturing companies or to firms in service related industries . . ."

Corporate Energy Coordinator
B. F. Goodrich Co.

The *Energy Conservation Program Guide for Industry and Commerce* (EPIC) is due for publication as NBS Handbook 115 in mid-September. Order SD Catalog No. C 13.11:115 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. $2.50 per copy ($187.50 per hundred).

analysis which may be useful in the economic evaluation of energy conservation steps in terms of first and second levels of performance, return on investment, benefit/cost analysis, and internal rate of return.

Pollution aspects

Selected safety and pollution considerations of energy conservation are reviewed in a section which points out that in the vast majority of cases the energy conservation program will enhance the pollution control for a manufacturing facility. In a very few cases, however, measures designed to conserve or recover energy may create a local pollution problem if the appropriate measures are not taken.

Where energy conservation steps result in better control of processes, better insulation of equipment with elimination of hot surfaces, and containment of energy losses in escaping hot fluids, there may be a real gain in plant safety. In certain other cases, where closer attention to process equipment requires more frequent operator or maintenance actions, opportunities for accidents may be increased.

By including plant safety personnel on the energy conservation team there may be a double advantage, the benefit of having personnel experienced in plant inspection and of including the consideration of plant safety early in the planning for each energy conserving change.

Also, certain energy conservation actions could result in a conflict with applicable safety and health standards such as the Federal Occupational Safety and Health Act (OSHA) regulations or a company's fire insurance requirements. For example, electricity can be conserved by reducing illumination levels but the OSHA regulations prescribe minimum lighting levels for certain categories of space and activities. Pertinent OSHA regulations are cited in the guide.

The National Industrial Energy Conservation Council, chartered by the President to advise the Secretary of Commerce on energy-related matters and serve as his conduit to the business community in the area of energy, was instrumental in developing the EPIC guide. It has also unveiled a Public Awareness Model Kit designed to help medium and small-sized companies launch a public relations program on energy conservation for employees and local communities. The kit, which contains advertising and "how to" materials, will be ready for distribution this month.

The Council, composed of 24 business leaders representing a broad cross-section of the nation's industrial and commercial community, also announced preparation of a new film emphasizing the long-term dimensions of the energy shortage. A brochure to help trade association executives promote energy conservation through their member companies is also being readied. Prints of the film will be available for distribution in early October. The brochure will be ready this month.

A Council survey of the 500 largest corporations indicated that 80 percent believe the energy shortage is serious and long range. As its acronym suggests, EPIC is designed for the long haul.

ENERGY PIPE ORGAN—*In keeping with the EPIC guidebook's stress on more efficient operations, this GE nuclear fuel plant in Wilmington, N.C., employs a computerized manufacturing system which simultaneously tracks and records the manufacturing history of thousands of uranium fuel containers (the "organ pipes", above) as they progress through the factory.*

Some Energy Figures

Energy consumption in the United States falls into four basic categories: residential, industrial, commercial and transportation. Including the transportation activities necessary for industry and commerce, some 70 percent of all energy used in the United States is consumed by the business and industrial community. About 43 percent of all energy is used by the industrial sector alone.

In 1972 the total energy bill for both industrial and commercial users added up to $24 billion. With energy costs on the increase, today's price tag will far surpass that figure.

Many companies are finding that an organized energy conservation program can be profitable and effective in reducing both energy use and costs. For many firms those savings have been made without loss in production through the period of spiraling fuel costs and limited fuel availability. Many companies have found that conservation measures can reduce energy use by 15-30 percent with no output loss.

The Energy Conservation Program Guide for Industry and Commerce (EPIC) is designed to help establish energy conservation programs. If EPIC were implemented throughout American industry, the effect could be an energy savings of more than 4 percent in total nationwide energy use over the next year. This is the energy equivalent of 1.4 million barrels of oil daily, or an estimated $2 billion per year.

U.S. Industry's Environmental Outlays Are In Steady Climb

Capital expenditures by American industry for air and water pollution abatement are increasing substantially, despite the "second look" at environmental requirements induced by the energy crisis.

A survey made by Commerce's Bureau of Economic Analysis shows that nonfarm business spent $4.9 billion for new plant and equipment to abate air and water pollution in 1973, and that it planned to spend $6.5 billion in 1974.

While the survey was conducted in November and December of last year, the comment from industry sources generally is that the figures were firm when they were compiled, and that the plans for the greater part doubtless have been adhered to regardless of the changed conditions that have occurred in 1974. A January survey indicated that overall capital budgets were not significantly affected by energy shortages.

Most of the spending and planned spending revealed was for improvement of air quality, in fact 64 percent of the total in 1973 and 66 percent of that planned for 1974.

Five industries dominate

Five industries accounted for $3.3 billion, or 66 percent, of the 1973 total: electric utilities, $1.4 billion; petroleum, $600 million; nonferrous metals $500 million; chemical, $400 million, and paper, $400 million.

Four industries spent 10 percent or more of their capital budgets for air and water pollution abatement: nonferrous metals, 31 percent; paper, 19 percent; blast furnace, steel works, 16 percent; and petroleum, 10 percent.

Four industries planned to increase their capital spending 50 percent or more in 1974: stone, clay, and glass, 96 percent; petroleum, 67 percent; blast furnace, steel works, 66 percent; and food, including beverage, 51 percent.

The only industries that planned decreases in pollution abatement spending in 1974 were air equipment manufacturing and air transportation. Air equipment manufacturing planned to spend $13 million in 1974 as compared with $20 million in 1973, while air transportation planned to spend $9 million in 1974 as compared with $15 million in 1973.

A report issued last spring by the American Iron and Steel Institute announced that steel companies in the U.S. nearly doubled their planned short-term spending for environmental quality controls in the preceding year. The report said that it covered 98 percent of the nation's steel.

It said that, at the beginning of 1974, U.S. steelmakers had budgeted $643 million for air and water pollution control equipment scheduled to go into operation in 1974 and later years. This total was nearly twice the $336 million budgeted at the beginning of 1973. Of the total, $482 million was for air quality, and $161 million for water.

A spokesman for the chemical industry said it would be fair to say that the corner had been turned in improvement of both air and water quality in many situations as far as the industry is concerned, and that conditions are getting better.

Energy crisis helped

He said that the reconsideration of the whole problem of pollution abatement in view of the energy crisis has been a good thing, because too little consideration had been taken of local needs and a great deal of money was being spent inefficiently.

A report prepared by the National Council of the Paper Industry for Air and Stream Improvement, Inc., showed that capital expenditures by the pulp and paper industry for air and water projects and solid waste disposal from manufacturing rose from $128 million in 1969 to $351 million in 1973.

Planned spending for these purposes in 1974 totaled $523 million. Thereafter, the spending plans shown in the report tapered

CHECKING UP—*Once the equipment is installed, there is no substitute for periodic on-site inspection to determine the effectiveness of a water management program.*

TOPPING IT OFF—*The Cedar Rapids, Iowa, waste treatment plant installed smell-removing "Dow Domes" above its rock-trickling filters.*

downward to $492 million in 1975 and $313 million in 1976.

The report explains that total annual expenditures for environmental protection in 1973 represented 33.7 percent of the total capital expenditures of $818 million for the group of companies in the primary sector of pulp, paper, paperboard and building paper and board manufacture.

The annual charges or average cost for environmental protection per ton of paper and paperboard produced in the industry in 1973 was $6.35, the report said, up from $3.94 reported in 1972.

Executives' comments

Comments by officials of individual companies reveal the approaches which their firms are making to environmental demands, and the rising costs in many cases. Here is a random sampling of comments from several major companies:

Officials of Exxon Company, U.S.A., said that in the five-year period from 1968 through 1972 the cost to the company of environmental controls was $346 million, and that the company is now spending $70 million a year for this purpose in all areas, including air, water, noise, and other problems. These programs, they explain, cover a wide range of activities extending from oil spills to the protection of wildlife sanctuaries.

A. P. Foster, Vice President of the International Paper Company in charge of environmental and engineering operations, said that the company is spending $31 million this year on environmental projects compared with $2 million last year. Spending for these purposes next year, he added, is estimated to be in the neighborhood of $40 million.

In the area of water quality improvement, he explained, the company is installing or is in the process of installing primary and secondary treatment facilities at all major mills, or equipment to achieve equivalent results.

With respect to air quality, he said, projects in which the company is engaged include the following: installation of higher efficiency scrubbers on lime kilns to meet standards of the various states and the Environmental Protection Agency; installation of higher efficiency scrubbing equipment on bark boilers; installation of electrostatic precipitators on recovery boilers and major coal boilers, and installation of oxidation equipment to minimize the odor problem.

Concern over boilers

Also with regard to air quality, he said, a major concern of the company is what can be and should be done about oil-fired boilers. To meet the particulate requirements, he explained, the only answer now at hand is to install extremely expensive electrostatic precipitators. To conform to the sulphur dioxide standards, he added, it is necessary to burn lower sulphur oil.

Officials of the Scott Paper Company explained that the company spent $22 million on air and water pollution control facilities in 1973, more than one-fourth of all capital expenditures, and that it intends to spend between $85 million and $130 million for the same purposes through 1978.

Scott is active, they point out, in many projects aimed at environmental improvement, both projects of its own and others in which it is a participant in a regional effort carried out by local governments.

A pioneer Scott project is a $24 million facility in Everett, Washington, which will collect, evaporate, and incinerate the spent sulphite liquor from the effluent of one of the company's pulp manufacturing units at the Everett plant site. The facility has been structurally completed and is now undergoing start-up operations. An additional facility is to be built to handle the effluent from a second company pulp manufacturing unit at this location.

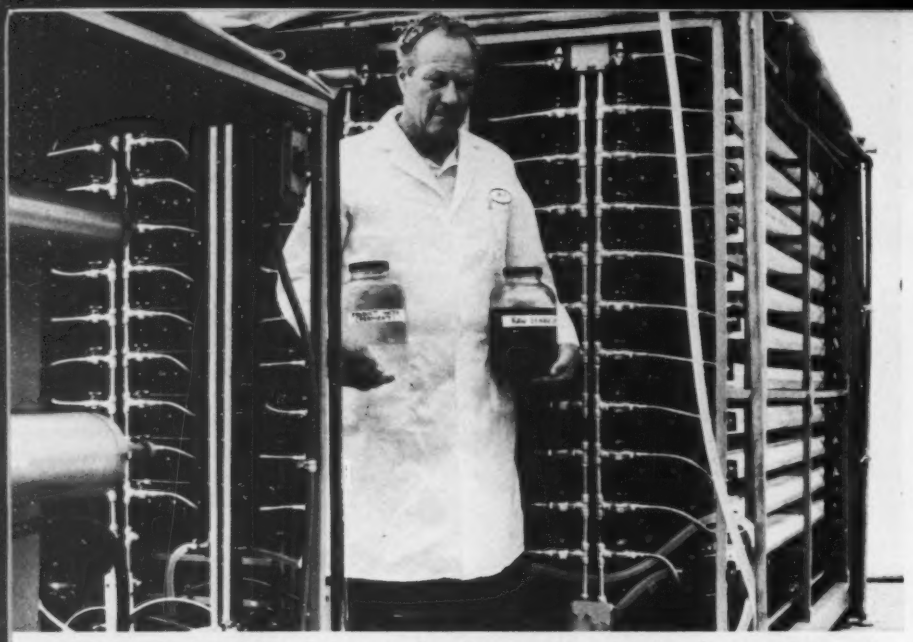
An official of the Mead Corporation said the firm spent $15.6 million in capital outlays for air and water pollution abatement in 1973, and $7,200,000 in operating costs for the same purposes. The estimated expenditures for 1974 are $17 million and $9.2 million.

The projected capital outlay for pollution abatement for the five-year period from 1974 through 1978, he added, is $54 million. The company's capital expenditures include its share in joint venture mills and is divided about equally between air and water pollution abatement.

John A. Georges, Director of Environmental Affairs for E. I. du Pont de Nemours and Company, said that du Pont is increasing the proportion of its capital equipment expenditures which are attributable to actual pollution abatement.

A couple of years ago, he explained, du Pont was spending about eight percent of its capital outlays on pollution abatement. At the present time, he added, it is around 10 percent, and the forecast is that it will go even higher.

He explained that, in determining what



POLLUTERS BEWARE—*Some researchers become a bit annoyed at the state of the environment. Note difference between treated water and raw sewage being held by this technician.*

STACKING UP—*A crane operator at a Goodyear coal-burning powerhouse jockeys a steel plate into position on one of three air pollution control units valued at $3.8 million. The equipment annually will remove some 73 million pounds of fly ash from the air, bringing the facility into full compliance with current air pollution standards on dust control.*

actually is an expenditure for pollution abatement, du Pont follows in a large degree the pattern adopted by the Bureau of Economic Analysis. That is, he said, outlays accredited as pollution abatement do not include such things as the following: expenditures, such as improvements in processes, which would result in a profit to the company; changes involving the use of low sulphur fuel; design changes which, although in part directed toward pollution abatement, are not in a major way intended for that purpose; and incremental changes in plant which the company does not attempt to define positively as pollution abatement changes.

Chester E. Otis, Manager of Environmental Affairs of Dow Chemical Company, said the company completed 1,129 water pollution abatement projects between 1971 and 1973. The capital spent on these projects, he said, was $53,409,000. He added that $20 million or more would be spent on completed water pollution abatement projects in 1974.

Declining benefits

The projects completed in 1971, he said, resulted in an annual net saving to the company of $6 million, and those completed in 1972 in a saving of $4,150,000. Those completed in 1973, he commented, resulted in a loss of $640,000.

"The reason for this trend," he explained, "is that naturally you pick up the biggest and most plentiful nuggets first. In other words, the further you progress in pollution reduction the more costly each project becomes.

"You always have a number of profitable and unprofitable projects, but as you advance you have fewer winners and more losers. We have saved money in the processes, but the opportunity for such savings becomes less as you move on.

"We shall continue to do all we can for improvements in the processes, but we shall also be spending quite a bit of money in waste water treatment at the end of the pipe, and this will cost us money."

Otis said that Dow is doing a number of things toward air cleanup, but that the effort and the cost is less than in the case of water.

P. P. Huffard, Jr., Director of Environmental Affairs for Union Carbide Corporation, said the company estimates that it will spend $30 million domestically in the U.S. and in Puerto Rico in 1974 on water and air problems, and that this spending rate likely will continue from now through 1983. The majority of the projects are directed toward producing cleaner water.

"We are running as hard as we know how," he commented, "to get into compliance and keep in compliance with the federal water and air pollution control requirements."

Officials of the Monsanto Company said the company spent $9,975,000 in capital outlays on water and air pollution abatement in 1973 and planned to spend $12,960,000 in 1974. In the three-year period from 1970 through 1972, they said, the company's pollution expenditures totaled $110 million. They explained the concentration of spending in those years on the necessity of complying with new regulations which had just been promulgated. Spending now is on a more even keel.

Irrigation system

Clarence Sprague, environmental engineering manager of Green Giant Company, food processors, said the company is continuing its efforts to expand and improve the irrigation system whereby it sprays back onto the land the waste water resulting from its seasonal processing of vegetables.

In some locations, he said, where irrigation is impractical because of soil conditions or other circumstances, the company has developed aeration systems to dispose of the waste water. Likewise in some instances, he said, the company along with others has used municipal treatment facilities to dispose of waste water, and in this case it pays for the privilege.

Sprague said certain problems appear as a result of the efforts of Green Giant to conform to water quality standards. They include: the continuing changing of standards, as a result of which a company that is trying to comply with one set of standards may find that it must shift position and try to comply with another set of standards; the heavy capital requirements for treatment facilities, unusually high because of the strong organic content of the waste water resulting from vegetable processing, particularly expensive where the facilities may be in use only 50 to 75 days in a year; and the large amounts of electricity required to treat waste water in a manner sufficient to meet the requirements.

Energy Management Digest

PUBLIC TRANSIT RENEWS CITIES, SAVES FUEL...Reviving and implementing public transit systems and curbing expressway construction will help conserve energy and also revitalize American cities, according to Federal Energy Agency Administrator John C. Sawhill. He called public transit a true alternative to the automobile and a catalyst for restoring inner cities to the health and vitality they once knew. "We must change our implicit accounting system that is biased in favor of automobile transportation," he said, adding that vehicle and fuel costs must be included in public accounting along with the cost of street and highway construction. "Compared to a billion dollar public transit system, for example, a billion dollar expressway seems like an even proposition, except that its hidden costs are much higher and, considering its effect on core cities, much more damaging. In strictly energy terms, urban public transit is much more desirable." Building or upgrading subways, reviving tracked trolley systems, and making bus routes speedier and more flexible were a few of the options Sawhill suggested for reviving the inner city.

UNION ENERGY EFFORT CITED...The Aluminum Workers International is the first union to receive the Commerce Department's Sav-Energy Citation. Commerce Secretary Frederick B. Dent presented the award to Union President Henry S. Olsen and Research Director Lawrence Holley at an Aug. 15 ceremony in Washington. The citation has previously been awarded only to business firms that pledge to carry out a four-point program of energy management. The 30,000-member union has instituted the four-point program at its headquarters in St. Louis and has urged its membership to assist management efforts to conserve energy in aluminum-making operations.

HOLDING BACK THE GLOOM...The Federal Energy Administration has endorsed amending the Emergency Daylight Saving Time Energy Conservation Act of 1973 to provide for four months of standard time per year, rather than returning to the six months of standard time and six months of daylight saving which was in practice before passage of the act. An FEA spokesman told the House Interstate and Foreign Commerce Committee, which is considering amendments to the Act, that his agency felt it is important to extend the daylight saving experiment. "Only by doing so will we be able to thoroughly evaluate the impact of year-round DST in the overall energy picture," said FEA Acting Asst. Administrator Roger W. Sant. Based on studies of the period since the act became effective last Jan. 6, FEA estimates that daylight saving brought about a 3/4 to one percent reduction in nationwide electrical consumption, which would amount to about 100,000 barrels of oil per day. FEA requested that standard time this winter run from the last Sunday in October until the last Sunday of next February. This would allow comparative studies of energy consumption during the months of March and April, which prior to last year had always observed Standard Time.

HOMEOWNER TIPS...Service the oil burner once a year, preferably in the fall. It is estimated that more than four million of the nation's oil furnaces don't receive such servicing, which could save as much as ten percent of each family's fuel consumption. For the nation as a whole, this would amount to saving about 70,000 barrels of oil per day. Also, use exhaust fans to pull heat and moisture released in kitchens and laundries directly to the outside. Finally, clean or replace the filter in the hot air heating system monthly.

TRUCKERS FUEL NEEDS MAY DROP...The Public Works Committees of both houses of Congress have approved legislation that would raise the capacity and dimension ceilings for trucks permitted on the highway. Present limits were set by the Federal Aid Highway Act of 1956, which used standards set in 1946. Since enactment of the act, highways have been built to take heavier, longer, and wider trucks, as well as more of them. The American Trucking Assn. estimates that up to 32 percent less gas and diesel fuel could handle the nation's truck payload if the proposed legislation were to be passed.

The Cancer Connection: Vinyl Chloride Industry Seeks Safe Exposure Level

Just how dangerous is vinyl chloride monomer, which, in the form of polyvinyl chloride, is incorporated into thousands of products made by U.S. industry? Available evidence, although still not definitive, suggests that it is dangerous enough to create a very real need for some level of control.

Nearly everyone agrees with that. But when they get to the next question—"Just how much control is required?"—there is a very strong divergence of opinion.

Although earlier European studies on rats indicated that rats exposed to heavy doses of vinyl chloride monomer (VCM) developed tumors, only after B. F. Goodrich reported on January 22 that five of its workers had died from liver cancer (angiosarcoma) was a careful look given to this problem.

The worldwide number of deaths among workers in the vinyl industry attributed to angiosarcoma has now been established at 21.

Areas of exposure

Exposure could take place at any of the production sites from monomer and polymer to processing finished products. Polyvinyl chloride (PVC) resins are used in many industries and in products ranging from phonograph records to drain pipes. These products may be extruded, calendered, or injection molded. PVC is also available in paste or dispersion from. Unknown amounts of residual monomer may be found in the PVC resins used in these applications. Besides the work area, exposure could take place at such points as PVC resin storage areas and in transport.

Dr. P. L. Viola in 1970 published the results of an animal study showing that tumors in the ear canals of rats developed as a result of exposure of 30,000 ppm., and later studies indicated tumors at 5,000 ppm.

Evidence of the relationship between VCM and angiosarcoma was recently developed in a continuing study by Prof. C. Maltoni of Italy. In his study, rats were subjected to VCM. At 6,000 ppm., 11 out of 72 rats developed cancer; 2 out of 67 developed cancer at 250 ppm.; at 50 ppm. there was no cancer.

On April 5, as a result of B. F. Goodrich's January announcement, the Labor Department's Occupational Safety and Health Administration (OSHA) reduced concentration standards at work sites on an emergency basis from 500 ppm. to 50 ppm. As a result of further studies OSHA is now proposing "no detectable level" standards, subject to hearings. OSHA believes vinyl chloride is a carcinogenic, or cancer causing, agent.

No known rebuttal findings in favor of vinyl chloride are available, although industry contends that much of the data doesn't relate to human exposure. But there is some question as to just how high a level constitutes a danger.

In 1961, Dow reported that long-term animal exposure to VCM levels of 100 ppm. and above produced slight liver injuries. The American Conference of Government Industrial Hygienists recommended 500 ppm. in 1962, but Dow retained their standard at 50 ppm. No Dow worker has died of PVC-caused angiosarcoma.

Product substitution

PVC is important and often critical in many industrial applications, according to Harry Pfann, head of the Department's Chemical Industry Section, Office of Business Research and Analysis. Although replacement materials are available, often this is not a practical solution. Natural materials in short supply, such as wood, natural fibers, and metals, might be required. For example, copper is in short supply and expensive and would not be available in sufficient quantities as a substitute for PVC drainpipe.

Due to shortages of other materials, the lack of PVC could also lead to shortages of upholstery materials, floor tiles, phonograph records, wire and cable, and many other products. These shortages would probably last until other raw materials or production equipment became available.

VCM production in 1973 amounted to 5.3 billion pounds, valued at $270 million. There are 15 plants in the U.S. employing about 1,500 people in monomer production.

PVC production in 1973 amounted to 4.4 billion pounds, valued at more than $700 million. Thirty-seven plants produce PVC in the U.S. employing about 5,500 people.

PVC resin compounding and conversion to plastic products involves approximately 2,300 U.S. plants, employing as many as 140,000 workers, with a total product value of about $4 billion.

On the basis of best available analytical methods, the "no detectable" level is effectively defined as 1 ppm. with an accuracy of $\pm$ 0.5 ppm.

The downstream impact on ultimate using or consuming industries would seriously affect the building and construction, furniture, shoemaking and automobile manufacturing industries, among others.

Complying with the standards will mean substantial expenditures for engineering and new equipment. Much of the equipment may not be readily available, and its lack could close down marginal operations. Prices for PVC products will almost surely increase. Reduced production as a result of plant changes may further reduce profitability and the incentive to continue operating.

Respirators and self-contained air supply are not a solution to complying with the proposed standards because of safety hazards to the worker. However, to reduce exposure in those cases where engineering systems are inadequate, the workers could wear respirators and self-contained air supply when VCM becomes detectable. This procedure will probably cut down worker productivity.

Effect on small PVC resin plants

The smallest PVC plants have an annual capacity of about 790 million pounds, or 14.6 percent of the total national capacity of 5.4 billion pounds. These plants may be forced to close as a result of high cost of modifying to meet standards combined with low profitability of operation.

Spokesmen claim that adherence to 'no detectable levels' would close down the industry because the technology does not exist to completely eliminate exposure. A study by Arthur D. Little, Inc. claims that closing down the vinyl chloride industry could sacrifice up to 2.2 million jobs and cost $90 billion to the U.S. economy.

Some industry groups suggest gradual reduction according to the following timetables:

PVC manufacturing plants

40 ppm. by 10/5/74 with a time-weighted average (TWA) of 25 ppm.
25 ppm. by 10/5/75 no TWA
25 ppm. by 10/5/76 TWA of 10 ppm.

VCM manufacturing plants

25 ppm. by 10/5/74 TWA 10 ppm.
10 ppm. by 10/5/77 TWA 5 ppm.

OSHA's Impact Statement avers that "Vinyl chloride, a petrochemical, is produced from irreplaceable natural resources, and reduced demand on these resources could be of merit." Actually, in the view of many, the use of petroleum for high-value plastic products is of greater merit and permanence compared to burning for fuel.

The air pollution threat around plants making or using vinyl chloride may require closing down ventilation system outlets. However, the Environmental Protection Agency has stated that VCM is not now a threat around plants, as more than 95 percent of samples taken showed levels of less than 1 ppm. Pollution of plant water effluents varied in the amounts of VCM depending on degree of waste water treatment. Highest level found was 20 ppm. but typical levels were 2-3 ppm. EPA has also stated that there is no evidence to indicate VCM is present in detectable levels in drinking water.

Use restricted

VCM has been used to a limited extent as a propellant and solvent for numerous aerosol formulations. Recognizing the possible hazards of exposure to VCM, the Federal Drug Administration has banned its use in hairspray and other cosmetic products, while the Environmental Protection Agency has banned its use in pesticide formulations. Presently, the Consumer Product Safety Commission is proposing a ban on its use in paints, paint removers and adhesives.

Blue Ribbon Group To Advise Commerce On Marine Resources

Secretary of Commerce Frederick B. Dent has appointed fifteen distinguished persons to serve as members of the newly-formed Marine Petroleum and Minerals Advisory Committee.

The Committee will advise the Secretary on matters pertaining to the Department's responsibilities in the area of marine petroleum and marine minerals resources, on means to facilitate cooperation between the private sector and government in these matters, and on related Law of the Sea affairs. Under provisions of the Committee's charter there may be up to twenty-five members, each serving a two-year term. The members represent the industrial, labor, academic, legal, environmental, and economic sectors concerned with the management, use, conservation, and development of marine petroleum and marine minerals resources.

The Committee will report to the Secretary through the Administrator of the National Oceanic and Atmospheric Administration. The Committee's first meeting will be held October 22-23 at the Department of Commerce in Washington, D.C.

Charter members are:

Dr. Thomas D. Barrow, director and senior vice president, Exxon Corp., New York;

Herbert Brand, president of the Transportation Institute, Washington, D.C.;

Dr. Dayton Clewell, senior vice president for research and engineering, Mobil Oil Corp., New York;

Marne A. Dubs, director of ocean resources, Kennecott Copper Corp., New York;

John A. Flipse, president of Deepsea Ventures, Glouster Point, Va.;

Ben C. Gerwick, Jr., professor of civil engineering, U. of California, Berkeley;

Leon Hess, chairman of the board, Amerada Hess Corp., New York;

Edward Hood, chairman of the board, Shipbuilders Council of America, Washington, D.C.

Thomas L. Kimball, executive vice president, National Wildlife Federation, Washington, D.C.

Betty N. MacDonald, water resources and environmental specialist, League of Women Voters, Madison, Wis.;

Robert Mauermann, executive secretary, Texas Shrimp Assn., Brownsville;

Cecil J. Olmstead, vice president, Texaco Inc., New York;

Melvin N. A. Peterson, project manager of Deep Sea Drilling Project, Scripps Institute, LaJolla, Calif.

John G. Winger, vice president for energy economics, Chase Manhattan Bank, New York, and

Robert B. Ziegler, vice president, IHC Holland Dredging Division, Mystic, Conn.

Several additional appointments are anticipated prior to the Committee's first meeting. The additional members will be selected to complement the industrial appointees and to reflect other interests, such as consumers, law, and land-coastal use.

John P. Kearney

Kearney Is Ombudsman For Business

John P. Kearney is the new Ombudsman for Business.

The Office of the Ombudsman, established in the Commerce Department in 1971, is the central place in the Federal Government where businessmen can address requests for information and services as well as voice their complaints, criticisms and suggestions.

Kearney comes to his new position from Greenwich, Conn., with a long history of business experience. He was a generalist in the business consulting field and recently a vice president of Brockway Glass Co. Before that he spent seven years as the General Manager of the Consumer Products Division of Continental Can Co.

For twenty years he was with Owens Illinois, having served as vice president and general manager of the Libbey Division and the Industrial and Electronics Division. While with the Electronics Division of Owens Illinois, Kearney introduced the first rectangular TV bulb to the market in 1948.

A 1936 graduate of Fordham University, Kearney also studied at Pratt Institute and completed the IBM computer course for executives in 1969. He is a senior member of the Institute of Electrical and Electronic Engineers, a member of the American Ceramics Society, and was chairman of the American Glassware Assn. 1970-73.

Grant Aids Search For Commercially Feasible Fire-Retardant Fabrics

Clemson University has been awarded a $474,821 grant for work on development of commercially feasible flame-resistant cotton/polyester fabrics.

Commerce Secretary Frederick B. Dent announced that Clemson's Textile Department will try to improve the technology of preparing flame retardant fabrics made from cotton/polyester blends and to insure that new theory and practice are rapidly coupled in commercial practice.

Cotton/polyester blends are a major factor in consumer apparel. Development of flammability control has been hindered by lack of commercially feasible fire-retardant treatments for the blends most desired in the marketplace. Blends are more difficult to treat than either of their component fibers because of complex interactions during combustion. New technology is needed to overcome this problem.

The Experimental Technology Incentives Program at the National Bureau of Standards is supporting this flammability research with the primary objective of testing new approaches to federal funding of civilian-oriented research and development, and moving the fruits of such research rapidly into commercial practice.

The selection of Clemson University, from a field of ten institutions submitting proposals, was based on their response to two essential questions: (1) What is the crucial research on the flammability of polyester blends that needs to be conducted to broadly affect commercial and consumer interests? (2) How should the research activity be organized and conducted for quickest translation of the results into commercial use?

In this program the textile industry at Clemson will coordinate the efforts of research experts at the University of Maryland, the Camille Dreyfus Laboratory of the Research Triangle Institute, the Southern Regional Laboratory of the U.S. Department of Agriculture, and several prominent firms in the textile industry.

California Gets Funds For Fire Protection Plans

Commerce's National Bureau of Standards (NBS) has awarded $127,000 to two California fire departments to develop a method for preparing master plans for community fire protection.

The year-long project should result in a set of procedures that fire departments around the country can use in developing master plans suited to their communities. Every local fire jurisdiction was urged to prepare such plans by the National Commission on Fire Prevention and Control in its 1973 report.

Receiving the NBS grant are the Los Angeles and Mountain View, Calif., fire departments.

The procedures developed in the NBS study will be tested through the preparation of actual master plans for Los Angeles and Mountain View, covering all elements of community fire protection including suppression and prevention of fires and building codes.

2nd Quarter National Income Accounts Budget in Balance

The federal fiscal position, as measured in the national income accounts, was in balance during the second quarter. Large increases in receipts more than offset expenditure growths to bring about the happy result, according to Commerce's Bureau of Economic Analysis.

There was a $1.5 billion deficit in the first quarter.

Receipts in the second quarter amounted to $291.6 billion at a seasonally adjusted annual rate, up $12.1 billion from the first, largely due to inflation. Gains came from personal tax payments—$5.3 billion, corporate tax liabilities—$5.0 billion, social insurance contributions—$1.4 billion, and indirect business taxes—$0.4 billion.

Expenditures were at an annual rate of $291.6 billion in the second quarter, up $10.6 billion from the first. Transfer payments accounted for $6.8 billion of the increase, largely resulting from the 7 percent April social security benefit increase ($3.7 billion) and higher unemployment benefits ($0.9 billion).

For the full fiscal year 1974, the preliminary figures (based on data not seasonally adjusted) show a Federal deficit of about $4.5 billion as measured in the NIA. This compares with a $4.7 billion deficit estimated on the basis of the February budget.

State-By-State Reports List 1973 County Business Pattern

A series of state-by-state reports on county business patterns during 1973 is now being issued by the Commerce Department's Census Bureau. Two reports in the series, covering Montana and New Mexico, are already available. Others will follow on a flow basis.

These reports show, generally, payroll and employment data county-by-county in a state for the first quarter of the year. They also present equivalent figures for the previous year. The data collected cover the greater part of business in the private sector. Excluded however are employees of federal, state and local governments, self-employed persons, farm workers and those employed in domestic and certain transportation services.

March-June Before-Tax Profits Were At $150 Billion Annual Rate

Before-tax book profits of corporations rose $11.7 billion in the second quarter of 1974 to a seasonally adjusted annual rate of $150.4 billion, according to preliminary estimates by Commerce's Bureau of Economic Analysis. The increase in the first quarter was $16.0 billion.

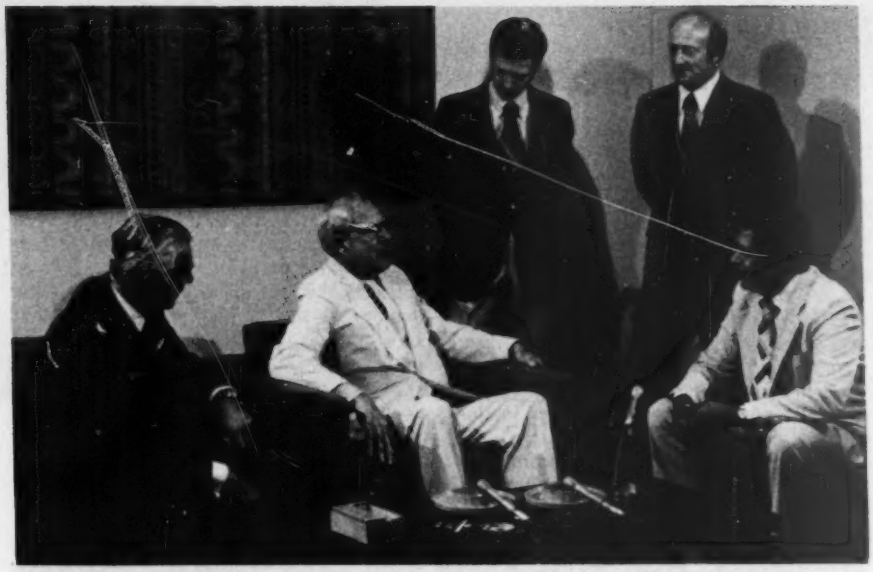
Book profit gains in both quarters were due in large part to increased inventory profits, which rose $14.7 billion in the first quarter and $6.9 billion in the second. In a period of rising prices, such profits arise because of increases in the value of inventories between the time they are produced and the time they are sold.

When BEA measures profits for national income purposes, inventory profits (or losses) are removed through an "inventory valuation adjustment". The adjusted figure—profits from current production—rose $4.9 billion from the first quarter to $112.6 billion in the second. The bulk of the increase occurred in manufacturing, with petroleum refiners, steel producers, and automakers accounting for the largest gains.

Earnings of the Federal Reserve banks continued to increase, and income improved for some of the industries in the transportation, communication, and public utilities group. There was a substantial decline in the net inflow of investment income from abroad.

Corporate profits taxes, which accrue on both inventory profits and profits from current production, rose $5.8 billion to $59.4 billion at a seasonally adjusted annual rate. After-tax earnings increase $6.0 billion to $91.1 billion and dividend payments rose $900 million to $32.5 billion.

Retained earnings, at $58.5 billion, were $5.0 billion above the first quarter rate. With corporate capital consumption allowances rising $1.6 billion to $75.5 billion, corporate cash flow reached $134.2 billion in the second quarter, $6.6 billion above the first quarter rate.



SETTING A PRECEDENT—*The Minority Business Opportunity Committee of the Dallas-Fort Worth Federal Executive Board put its money where its convictions are—in the minority-owned Pan-American National Bank of Dallas, whose majority shareholders are Mexican-Americans. The committee hopes to set a precedent, and to encourage federal agencies to follow its example and urge grantees to do likewise. Shown here are (left to right) Col. John Doolittle, committee chairman; Fred S. Neumann, last year's chairman; Don Guier, FEB chairman; L. E. Golman, bank president; and Manuel Almaguer, of the bank's board.*

Services To Aviation, Storm Warning System Stressed In U.S. Weather Plans

Plans for an improved severe weather warning system and the use of new technology for more efficient operations highlight a newly-released "Federal Plan for Meteorological Services and Supporting Research for Fiscal Year 1975." Expanded weather services to aviation are also projected.

The plan includes proposed meteorological programs for all federal agencies, and calls for expenditure of more than $576 million. This represents a $5.7 million increase over fiscal 1974. All figures are tentative, as they have not yet received Congressional approval.

The largest increases proposed are by the Federal Aviation Administration for enhanced services to aviation including the purchase of additional surface weather observing equipment for airfields at $5,025,000. The Department of Defense and Department of Transportation's Coast Guard programs show net decreases of $4,396,000 and $3,706,000 respectively.

The Commerce Department's National Oceanic and Atmospheric Administration will use its increased funding for new radars to fill gaps in area coverage; to buy satellites in the on-going Geostationary Operational Environmental Satellite series and procurement of ground equipment for NOAA's polar orbiting satellite system; to provide community preparedness specialists to assist communities with their severe weather preparedness plans; and, to begin the automation of field stations to improve efficiency and relieve forecasters of some of the more routine manual functions.

The Federal Aviation Administration, in addition to a major purchase of surface weather observing equipment, plans to buy equipment for the recording and continuous broadcast of weather information, and to expand its En Route Flight Advisory Service to 19 additional locations.

The Department of Defense, while cutting back in most areas, has proposed a major expansion of computer power at both the Air Force Global Weather Central and the Fleet Numerical Weather Central to improve application of the large amounts of available satellite data and improve military services. Defense is also planning improvements in communications centers at several U.S. and foreign bases.

U.S. Households Total Nearly 70 Million

Households in the United States were estimated to total nearly 70 million in a nationwide survey taken in March by Commerce's Bureau of the Census.

The figure was an estimated 6.5 million more than in 1970. Nearly half (46 percent) of the increase since 1970 consisted of households made up of persons living alone or with non-relatives. This is the fastest growing type of household in the nation, up 25 percent since 1970.

Among the factors contributing to this growth are: maintenance of households by older persons who live apart from any relative and young singles who have left the parental home.

Of the estimated 69.9 million households last March, 46.8 million (67 percent) were husband-wife households; 8.1 million (12 percent) were families in which no spouse of the head was present (the great bulk of these headed by a woman); and the remaining 14.9 million (21 percent), consisted of people living alone or with non-relatives.

The report says that the 1974 total of households headed by a woman was 16 million, compared with 13.4 million in 1970.

The total number of families in 1974 was estimated to be 55.1 million compared with 51.6 million in 1970.

Copies of the report, "Households and Families, by Type: March 1974" P-20 No. 266 may be obtained for 25 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 or from Commerce District Offices in major U.S. cities.

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Blacks Gain In Elective Office, Education; Drop In Income Ratio

Black Americans have made impressive gains in education and election to public office, but the ratio of overall black family income relative to whites has declined in recent years.

A recent Census Bureau report points out that:

- The priority which blacks are placing on education is reflected in the growing proportion of young black males—now 70 percent of those 20 to 24 years old—who are high school graduates. Blacks made substantial gains in college attendance in the early 1970s. About 700,000 were in college in 1973. A higher proportion of black men than women in the 18 to 24 age bracket were in college—19 versus 14 percent. In 1965 the rate, 10 percent, was the same for both black men and women.
- Between 1970 and March 1974, the number of blacks holding elected public office increased by a dramatic 61 percent to a total of 2,991. There has been a marked increase in the number of black mayors—81 in 1970 and 108 in 1974. The number of black women holding public office has more than doubled since 1969, from 131 to 337. Blacks held office in all but five states—Hawaii, Montana, North and South Dakota and Utah. About 54 percent of all black public officials were in the South.
- Median income in 1973 was $7,270 for black families and $12,600 for white families. Although the median increased for both blacks and whites during 1972-73, only white income showed a significant rise, 2.6 percent, after adjusting for price increases. From 1969 to 1973—the black-to-white income ratio actually declined from 61 percent in 1969 to about 58 percent in 1973. Black family median income did not grow between 1969 and 1973, after an appreciable 32 percent increase during the previous four-year period.

Contributing to the decline in the proportion of black-to-white income were:

- A decrease in the proportion of multiple earners among black families. Historically, blacks have had a greater proportion of mutiple earners than whites. However, in recent years, a reversal occurred with black families having proportionately fewer multiple earners (50 percent) than white families (54 percent).
- The proportion of black families headed by women, who generally have lower income, has increased in recent years.
- A slowdown in the number of blacks moving into higher-paying jobs.

The 1973 unemployment rate for blacks was about double that of whites—8.9 percent versus 4.3 percent. After declining for several years in the 1960s, the jobless rate for blacks began to rise in 1970.

There were 1.5 million black families below the poverty threshold—$4,540 for a nonfarm family of four—in 1973, more than one-fourth of all black families. The proportion for white families in this category was 7 percent. From 1965 to 1969, the proportion of black families at the low-income level had been markedly reduced, while the proportions at the upper areas rose sharply. In recent years, there were modest gains at the upper sections with no significant change at the lower end. The number of white families in this category declined.

Although the difference in income between all black and white families has widened, at least one segment of the black population—young husband-wife families in the South—has made substantial gains in narrowing the income gap. There, the ratio of black-to-white income increased from 72 percent in 1969 to 84 percent in 1972. The working wife (and the number who worked year-round) was an important factor in explaining this narrowing income differential.

Attention previously has been focused on comparable families in the North and West who had reached income parity with their white counterparts in the 1960s. It now appears that young black husband-wife families in the South have followed, but with considerable lag, the pattern of their counterparts in the North and West.

Copies of the report, "The Social and Economic Status of the Black Population in the United States, 1973," P-23, No. 48, are available for $2.75 each from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from Commerce District Offices.

Recent Technical Publications

These recent reports of government-conducted or sponsored research issued by the National Technical Information Service are of possible interest to U.S. businessmen. Prices listed are for paper copies; all are also available in microfiche for $1.45 each. Order from NTIS, P.O. Box 1553, Springfield, Va. 22151 (703-321-8543.)

A program of research, development and demonstration for enhancing coal utilization to meet national energy needs (PB-226 631). 144pp. $3.

Outdoor recreation: a legacy for America, Appendix A—An economic analysis (PB-266 646). Bureau of Outdoor Recreation, Washington, D.C. 475pp. $9.

Ecological disposal of plastics with emphasis on foam-in-place polyurethane foam (AD-771 342). Plastics Technical Evaluation Center. 93pp. $10. Explores factors involved in the disposal of polyurethane foam used in packaging and gives 166 references covering ecological disposal of plastics and related subjects such as thermal degradation. Serves as a guide and reference to this important area of concern.

Changes in energy consumption (PB-227 580). MIT, Cambridge, Mass. 113pp. $4.50. Ranks sectors of the economy according to energy use based on total consumption, consumption per unit of output, and consumption per unit of final demand sale. Rankings are made for coal, oil, natural gas, and electricity consumption.

The nation's energy future—a report to the President (WASH-1281). U.S. Atomic Energy Commission. 180pp. $3.95. Summarizes a recommended five-year $10 billion federal program for regaining and maintaining energy self-sufficiency by 1980. Discusses the energy supply and demand situation; five major tasks required to regain and maintain energy self-sufficiency; technological obstacles; and the federal government role.

U.S. energy through the year 2000 (PB-227 799). Office of Oil & Gas, Washington, D.C. 74pp. $2.95. Analyzes probable future energy consumption within each of the major consuming sectors and for each of the energy supply sources. Including: electrical, synthetic gas, household and commercial, transportation, and industrial sectors; and petroleum, gaseous fuel, and coal supply sources.

Bureau of Mines research programs on recycling and disposal of mineral-metal-, and energy-based wastes (PB-227 476). 60 pp. $3.75. Summarizes extraction research; upgrading and recycling of automotive and related ferrous and nonferrous scrap; use and stabilization of mine, mill, and smelter wastes; and recovery and reuse of values from industrial waste products. Includes a bibliography.

Alternative regulatory policies for dealing with the natural gas shortage (PB-228 007). MIT, Cambridge, Mass. 81 pp. $4. Examines effects of low wellhead ceiling prices and alternative regulatory policies on gas reserves, production supply, production demand, and prices over the remainder of the decade.

Biological treatment technology (PB-228 148). Environmental Protection Agency's National Training, Cincinnati. 326 pp. $7.50. This manual shows operators how to improve the performance of biological treatment facilities.

MINORITY-RUN BUSINESS—*South Hills Petland (above) was purchased by Isaiah Edmunds (right, with customer) with assistance from OMBE's Pittsburgh Business and Job Development Corp. Below, Mrs. Aloma Edmunds, far right, is a partner in the enterprise.*

Porter-Turned-Owner Keys Pet Store Success To Post-Sale Service

Pittsburgh minority businessman Isaiah Edmunds today owns the thriving pet shop where he started 29 years ago as a $15-a-week porter.

"Years ago, if you were a black in a white area you couldn't do business, but people don't look at that today . . . they just want service," says Edmunds.

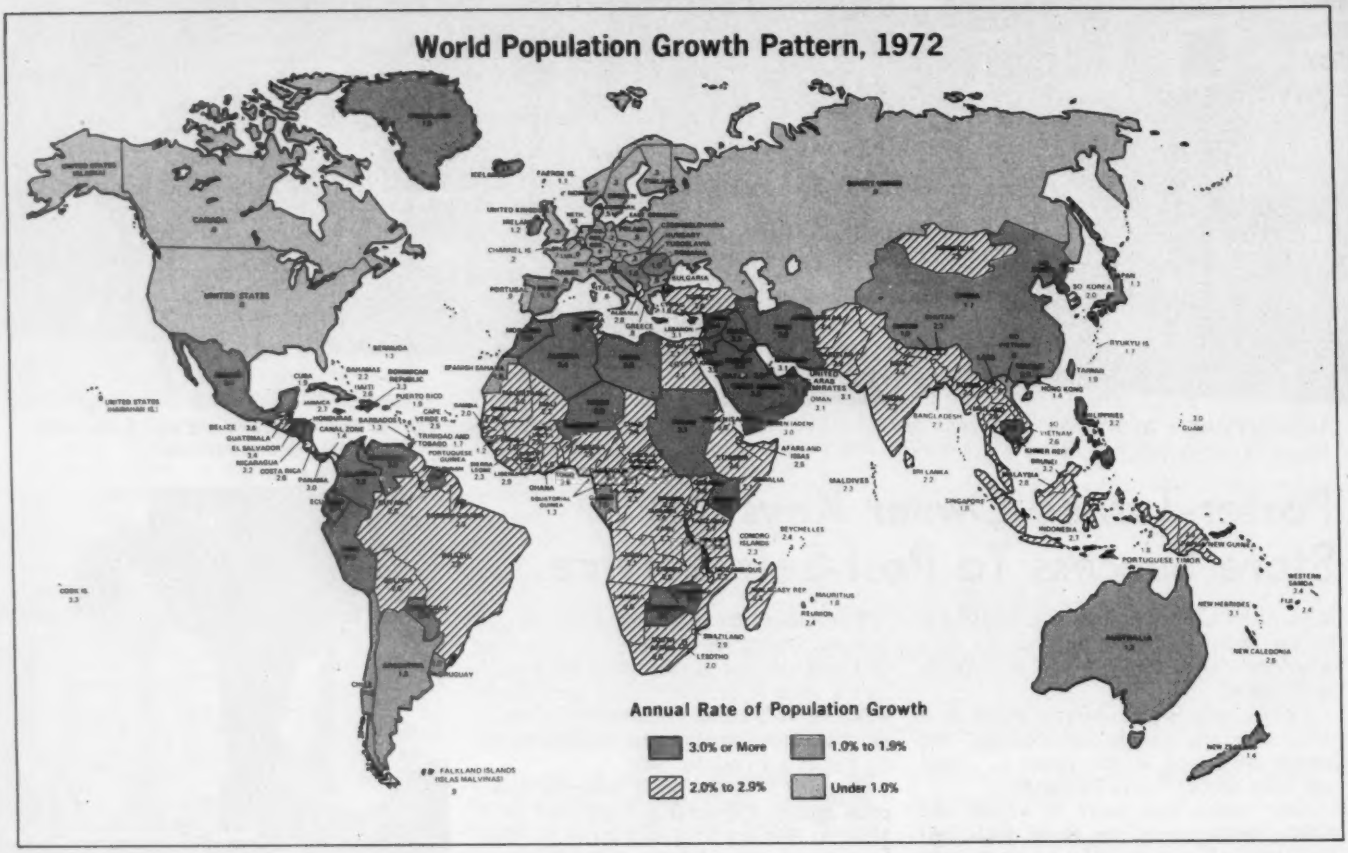
After many lean years of varied and difficult work around the South Hills Petland, Edmunds and his wife, Aloma, bought the business with the assistance of the Pittsburgh Business and Job Development Corporation, a minority enterprise agency funded by Commerce's Office of Minority Business Enterprise.

OMBE Director Alex Armendaris called Edmunds "an outstanding example of how minority entrepreneurs can profit with a combination of experience, willpower and help."

Edmunds decided to purchase the pet business, located in a white suburban area of Pittsburgh, but couldn't meet the owner's asking price of $31,000. When the business went into bankruptcy, Edmunds was able to purchase store fixtures and equipment for $1,200 at a Constable Sale.

Working with the local minority enterprise agency, Edmunds got approval for a Minority Business loan package of $20,000. Last year, local and federal officials helped him with a "grand opening." Since then, the business has grown on a firm footing.

Edmunds believes the key to his success is service. "I watched how some of the clerks in other pet shops treated their customers," he says. "I decided if I ever owned a pet store, when I sold someone a dog, my door would be open if they had a problem. With good service, anybody can have success."



3.8 Billion World Population May Double By 2010 A.D.

The world's population totaled an estimated 3.8 billion persons at the start of 1973, Commerce's Bureau of the Census reports.

The figure is from a report containing the most recent in a series of annual world population estimates prepared by the Bureau's International Statistical Programs Center, which also prepared the accompanying map.

China had the largest 1973 estimated population among the nations of the world with nearly 793 million. Other leading counties are: India, 596 million; USSR, nearly 249 million; United States, 209 million; Indonesia, 128 million; Japan, 107 million; and Brazil, 102 million. Population totals for 203 different nations or national entities are shown in the report.

The world's population is expected to double within the next 36 years at present growth rates, according to the Census Bureau. The time required for this to happen will vary widely from continent to continent. Doubling of the population is expected to take 113 years in North America, but only 24 years in mainland Latin America. Estimated rates for other continents and subcontinents are: Caribbean Islands, 29 years; Europe, 99 years; Africa, 27 years; the Near East, 27 years; South Asia, 30 years; South East Asia, 27 years; East Asia, 42 years; and Oceania, 43 years.

Other data shown in the report include birth and death rates for 1972; infant deaths, rate of natural increase in 1972, population under 15 years, life expectancy, and urban proportion of population.

Estimates in the report are based on U.S. and foreign censuses, population surveys, vital statistics reports from various nations, and estimates from population officials throughout the world with whom the Bureau maintains contact.

Population of continents and subcontinents:	Million
North America	231.2
Latin American mainland	277.1
Caribbean Islands	26.0
Europe	706.8
Africa (excluding Egypt)	337.2
The Near East (including Egypt)	156.2
South Asia	781.2
South East Asia	302.5
East Asia	970.1
Oceania	20.3

Single copies of the report, "World Populations: 1973" ISP-WP-73, may be obtained for 40 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 or from Commerce District Offices in major cities of the U.S.

Family Income For 25-Year Period Reported By Census

A technical paper summarizing the economic progress of the American family from 1947 to 1971 has been published by Commerce's Bureau of the Census.

The data show that, in 1971, median family income was $10,285, that 68 percent of all families were below that level in 1961 and that 86 percent were below it in 1951. They show also that the 1951 family median was $5,783 in constant dollars (the actual figure with an adjustment for inflation). By 1961, only 34 percent of all families had less than 1951 median and, by 1971, only 23 percent were below it.

Copies of the report, "Family (Money) Income 1947 to 1971 Summarizing Twenty-Five Years of a Summary Statistics," Technical Paper No. 35, are available for 80 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from Commerce District Offices in major cities.

LANGUAGE CERTIFICATION—*Hotels and motels meeting the bilingual requirements of the new USTS/AH&MA program receive a certificate, shown here in upper right corner.*

U.S. Hotels With Bilingual Staffs Promoted To Foreign Visitors

In preparation for the influx of foreign visitors expected during the American Revolution Bicentennial in 1976, the United States Travel Service, in cooperation with the American Hotel & Motel Assn., has introduced a new bilingual hotel certification program.

Under the plan, USTS will promote to the travel trade abroad hotels and motels having key staff members who speak French, Spanish, German or Japanese in addition to English.

Since 1969 USTS and AH&MA have operated a hotel/motel multilingual certification program, awarding a plaque which qualifying hotels could display at their reception desks. To qualify, hotels had to staff their front desk, switchboards and restaurants with personnel who speak French, Spanish *and* German or Japanese in addition to English. To date, more than 200 hotels and motels in some 80 cities have qualified.

The new program enables more precise publicity abroad identifying the language capabilities at various U.S. locations and enables more hotels to qualify. Hotels offering a particular language will be promoted in the country where the language is spoken. For example, computer printouts of all hotels with German language facility will be distributed to key tour operators, travel agents and international airlines by the USTS office in Frankfurt. Similarly, Spanish language facility will be promoted in Mexico, Japanese in Japan and French in France and French-speaking Canada.

From responses to an initial survey, USTS has identified some 1,200 properties qualifying for bilingual certification. The hotels and motels will receive certificates citing their foreign language assistance. The certification will be renewed on a yearly basis, to assure that participating hotels continue to meet the standards.

Other programs to aid the foreign visitor which USTS and AH&MA hope to implement by the Bicentennial year include developing currency exchange facilities in hotels and motels, and publicizing the bilingual facilities in international hotel directories and travel guides.

Southeastern Workshop To Consider Technology Application Programs

Southeastern manufacturers, businessmen, government officials and consumers interested in federal technology application programs are expected to participate October 3 in a Birmingham, Ala., workshop designed to promote the exchange of science and technology resources between the Federal Government and the region's states.

Dr. Richard W. Roberts, director of Commerce's National Bureau of Standards, one of the co-sponsors, said the workshop would be held at the Parliament House Motor Hotel in the Alabama steel city.

Topics on the conference agenda include building technology, fire services and fires in buildings, flammable fabrics and business and industrial metrification.

Other sponsors of the conference include the Alabama Chamber of Commerce; Alabama Development Office; Auburn University; and Commerce's Birmingham District Office.

Those wishing to attend the conference should contact John Hawthorne, director of agricultural and industrial development, Alabama Chamber of Commerce, P.O. Box 76, Montgomery, Ala., 36101, (205-834-6000); or Mrs. Sara Haslett, Birmingham District Office, (205-325-3327).

There will be a $15 registration fee for the conference or $5 for the luncheon only.

Indians Get Over $1 Million For Tourism Development

More than $1.16 million in grants has been awarded to Indian organizations for development of recreational facilities by Commerce's Economic Development Administration. The money will fund projects in Minnesota, Maine, South Dakota and California.

The Fond du Lac Indian Reservation Business Committee, based at Cloquet, Minn., will receive $250,000 to develop a complex with a marina, beach improvements and overnight camping facilities.

Maine's Penobscot Indians are getting $55,000 to develop campsites on two islands in the Penobscot River. Family-oriented canoe trips will be established to attract tourists to the area. The Passamaquoddy Indians have been awarded a $200,000 grant to construct cabins, campsites, picnic tables and fireplaces at a campground on Long Lake. Camping programs are planned for hunters and fishermen and for children from urban communities.

South Dakota's Standing Rock Sioux Tribe will receive $287,000 to add support facilities to its Grand Island Peninsula tourism complex at Mobridge. The additional facilities should spur use of the complex for conferences and conventions.

California Indians in Inyo County should benefit from $286,000 in grants to develop campsites on the Fort Independence Reservation. A $83,000 grant to the San Diego County Indians will fund a campground on the La Jolla Reservation.

In each case, EDA will meet the total cost of the projects, which will create immediate construction jobs for unemployed Indians and stimulate the growth of tourism, thus increasing future employment.

Computer Program Helps U.S. Factories During Metric Shift

With the nation's accelerating trend toward the metric system, American manufacturers are finding it necessary to deal with both the metric and the U.S. customary system of measurement. To assist them, the Commerce Department's National Bureau of Standards has devised a computer program package to perform the conversion from one system to the other with carefully controlled accuracy.

The package consists of separate computer programs developed by Caterpillar Tractor Co. and General Motors Corp., documentation explaining how to get the programs running on different computers and how to use them, and test problems to permit users to verify that the programs are compatible with their computers. Other programs may be added.

The Caterpillar program converts 31 different metric units to their U.S. customary equivalents. In contrast, the General Motors programs convert in both directions but work with millimeters and inches only. These programs use rounding conventions somewhat different from those that are employed in the Caterpillar program.

Both the Caterpillar and the General Motors programs are written in American National Standard FORTRAN and are suitable for use on a wide range of computers with little or no modification. The Caterpillar program is operated in the batch mode while the General Motors programs are interactive.

The programs' main advantage is in providing the design engineer with control over the accuracy of the conversion process and the tolerances to be maintained. In this way, errors and costs that would be unavoidable in a shop where everyone makes his own conversions are eliminated. Control at the design level also increases productivity by speeding up the manufacturing process and providing an automatic self-checking system that is essentially error-free.

The package is priced at $500 to recover NBS costs.

Order: Conversion Package, Room B311, Chemistry Building, National Bureau of Standards, Washington, D.C. 20234, (301-921-2045). The programs and test problems are recorded on tape in six alternative combinations of character code and density depending upon the computer configuration upon which they are to be run. Orders should specify ASCII, EBCDIC, or BCD code and 556, 800, or 1600 bpi density.

Calendar For Businessmen

Sept. 8-10—Ipswich, Mass—Revolution In On-Line Information Storage and Retrieval Systems conference, Castle Hill Conference Center. For information, Dick Murray, Institute for Graphic Communication, Inc., 375 Commonwealth Ave., Boston, Mass. 02115. (617-267-9425.)

Sept. 9-10—New York City—First National Structural Foam Conference, Roosevelt Hotel. Sponsor: New York University. For information, Alex Makowski, New York Management Center, Dept. 14-NR, 360 Lexington Ave., New York, N.Y. 10017. (212-953-7272.)

Sept. 9-11 — Chicago — 3rd International Pollution Engineering Congress, McCormick Place. Held in conjunction with 3rd International Pollution Engineering Exposition. For information, Clapp & Poliak, Inc., 245 Park Ave., New York, N.Y. 10017. (212-661-8410.)

Sept. 11-12—New York—Conference On Terrorism and Executive Safety, World Trade Center. For information, The World Trade Institute, 55th Floor, One World Trade Center, New York, N.Y. 10048. (212-466-3150.)

Sept. 11-14—Cleveland—National Inventions and New Products Conference and Exhibition, Cleveland Engineering and Scientific Center, 3100 Chester Ave. Sponsors: Commerce's Cleveland District Office and Cleveland Engineering Society. Luncheon speaker Sept. 12, C. Marshall Dann, Commissioner of Patents. For information, C.E.S. (216-361-3100.)

Sept. 23-26 — Washington — 10th Annual Marine Technology Society conference, Sheraton-Park Hotel. Sponsor: Marine Technology Society. Featured speaker: Dr. Robert M. White, Administrator, NOAA. For information, Marine Technology Society, 1730 M St. NW., Washington, D.C. 20036. (202-659-3251.)

Sept. 23-27—Dallas—First session of 4-part AMA Management Course, Royal Coach Motor Hotel. For information, American Management Assn., 135 West 50th St., New York, N.Y. 10020.

Sept. 23-27—New York—American Management Association seminar on Fundamentals of Modern Personnel Management. For information, AMA, 135 West 50th Street, New York, N.Y. 10020.

Sept. 24 — Pittsburgh — 1972 Economic Censuses user conference. For information, U.S. Dept. of Commerce Pittsburgh District Office.

Sept. 26-27—Atlanta—Regional Operations and Automation Workshop, Stouffer's Atlanta Inn. For Information, American Bankers Assn., 1120 Connecticut Avenue NW., Washington, D.C. 20036. (202-467-4332.)

Atlantic Anglers' Guide Tells Where Fish Are . . . Maybe

A geographical study of marine recreational fishing dealing with the location of fishing grounds, the various fishing and boating facilities available, local conditions and characteristics of fishing, life habits, and environmental requirements of fish along the Atlantic coast has been published by the National Oceanic and Atmospheric Administration.

Entitled "Anglers' Guide to the United States Atlantic Coast" and issued in four sections, the publication covers salt water fishing from Maine to Virginia. The sections are the first half of an eight-section study now nearing completion, which will cover the entire coast from Maine to Florida. Section I covers the area from Passamaquoddy, Maine, to Cape Cod; Section II, Nantucket Shoals to Long Island Sound; Section III, Block Island to Cape May, New Jersey; and Section IV, Delaware Bay to False Cape, Virginia.

The published sections include four to six subarea maps of the tidal shoreline, shaded in such a way as to indicate wetlands, as well as city, county, and federal parks and wildlife areas. The maps show principal roads and towns, marinas, ramps, docks, and other fishing facilities. Also shown are fishing grounds, locations of wrecks, artificial reefs, and areas where the most popular fish are commonly caught. Illustrations of the fishes available are provided, along with brief descriptions of their habits, distributions, and seasons of abundance.

A text accompanying each section discusses topography, climate, tides, history of fishing, conservation problems, and some biology of the more frequently caught fishes. Each section also contains a glossary of fisheries' terms.

Sections I, II, and IV of the Anglers' Guide cost $4.15 each and Section III costs $4.30. They can be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Computer Systems Market Emerging In Western Europe Has Sophisticated Aspects

The market for U.S. computer software and systems in Western Europe has reached that point in its development where the opportunities for firms providing specialized management systems can be compared favorably to such opportunities in the United States. The rapid growth in the use of computers and computer related equipment in the last ten years in Belgium, the Netherlands, and in West Germany has brought about conditions favorable for the sale of such systems. The sophistication of the market is creating a demand for the advanced support that can be furnished only by U.S. firms that have responded to the needs of the fast-moving U.S. market.

This is how the members of a U.S. trade mission saw the demand picture developing as they interviewed potential customers recently in Amsterdam, Duesseldorf, and Brussels.

Mission Director Robert F. Magee of Commerce's Buffalo District Office called attention to another factor creating a climate similar to that in the United States—the growth of EDP service centers, software houses, service bureaus, computer consulting services, and time sharing services. The state of the art has reached a point where it now can provide an attractive environment for the aggressive, independent U.S. computer systems company.

The nine-member mission, six of whom are new to export, spent two weeks interviewing hundreds of potential customers and representatives in the cities visited. Products included management systems, manufacturing control systems, timesharing software, financial reporting systems, bank applications software, construction management systems, urban transportation systems and software packages for legal offices. A few of the firms provide management consulting services in the computer systems field.

Although such products generally involve a "long sales cycle," estimated orders exceeding $1 million in the next year or two were reported by the mission members and a number of agreements for sales representation, licensing and joint ventures were negotiated. However, more important was the opportunity to evaluate the market potential because of the broad mix of industry contacts provided in these three countries in the two-week period.

Mission members discussed markets and economic conditions with government and business leaders at State Department-sponsored business receptions in Brussels, Amsterdam, and Frankfurt. Ambassador Leonard Firestone, Ambassador Kingdon Gould, Jr., and Consul General Robert Harlan hosted these business sessions.

Louis L. Davis, President, Lex Systems, Inc., Menlo Park, Calif., stated that "to obtain the market research information and personal contacts through means other than the trade mission would be cost prohibitive." Commenting on the Amsterdam sessions,

DISCUSSIONS IN BRUSSELS—*In top photo, Noel S. Piland (right) of ADR Int'l and his Belgian agent listen to a visitor describe software requirements. Below, Joseph S. Annino (center) of CACI, Inc., and his Netherland agent explain CACI systems to a Belgian executive.*

WARM INTEREST—*At top, Richard P. Eidswick (right) of Com-Share, Inc., and two associates explain their computer time-sharing services to two prospective users (left). Below, Roger J. Abouchar of Kranzley and Co. discusses software systems with two business officials.*

Joseph S. Annino, CACI, Inc., Los Angeles, Calif., and Elbert L. Brown, European marketing representative for MRI Systems Corp., Austin, Tex., spoke of the quality of the prospects, the excellent scheduling, and the time-saving feature of the mission.

Prospects by country

The group confirmed that inflation and mounting wages are spurring Dutch business to greater automation and more efficient utilization of their computer installations in order to preserve their competitiveness in the expanded Common Market and overseas. A recent Commerce-sponsored survey showed computer hardware sales in 1973 of some $250 million, and projections for 1975 sales at about $400 million.

Computer manufacturers still supply 90 percent of software to Dutch users, but this percentage is expected to decline. The large and growing number of programming staffs provides an excellent market for U.S. suppliers of programmers' tools, subroutines, service routines, and utilities.

EDP activity is expanding rapidly in Belgium, according to a recent survey by the U.S. Embassy in Brussels. Although major U.S. and European computer producers are already well represented in the market, software techniques and knowledge of how to use software are not well developed. There is an excellent market for U.S. developed "packages" and related EDP services for the large financial community, business, industry, and the government.

A survey conducted for the U.S. Trade Center in Frankfurt reveals that annual growth rates of the total German software market are seen at some 35 percent. Products with high sales potential are said to be report generators and file management systems, programming aids, utility proprams, application programs for management, the manufacturing industry, wholesale industry, and medicine.

Other members of the mission were: Elmer G. Marchi, Control Information Inc., Rosemont, Ill.; Richard P. Eidswick, Com-Share, Inc., Ann Arbor, Mich.; Noel Piland, ADR International Corp., Princeton, N.J.; Roger J. Abouchar, Kranzley & Co., Cherry Hill, N.J.; Saul Hanges, Computer Dynamics. Corp., Cherry Hill, N.J.; Walter D. Hodge, Cambridge Computer Associates, Inc., Cambridge, Mass.

Insurance Firms Studying Proposal On Political Risks

About 50 private U.S. insurance companies are now studying a plan that would put them into partnership with the Overseas Private Investment Corporation (OPIC) on underwriting political risk insurance. OPIC is the government agency that offers insurance and finance services to encourage U.S. private investment in the world's developing nations.

William D. Bberle, who heads the White House Council on International Economic Policy, discussed the importance of private investment in stimulating foreign trade and strengthening the competitive position of the United States in international markets at a recent meeting at which the plan was broached.

The proposed plan follows a recent Congressional action directing OPIC to test whether the private insurance industry can take over some or all of the agency's investment insurance business. It envisions formation of an association to issue insurance covering expropriation and inconvertibility risks, and was developed after two years of consultation between OPIC and a committee of private insurance executives.

The association will be organized as a combined underwriting and reinsurance pool for issuance of new insurance coverages and for sharing OPIC's risks on its existing portfolio. OPIC itself would be a member and act as the association's reinsurer for excess losses.

OPIC's plan calls for a first loss pool capacity of $40 million per country and $80 million globally. The private companies will be invited to take up to 50 percent participation in the initial years, and all members — including OPIC — would receive shares of net premiums in proportion to their participation in the association's liabilities. OPIC also is to receive management and reinsurance fees to be taken from gross premium income.

Hong Kong Plans To Establish Packaging Information Center

A U.S. $120,000 packaging information center for developing countries of Asia will be established in Hong Kong. It will present case histories on packaging experiences in developing countries, maintain a list of packaging machinery manufacturers, and compile information on packaging education courses available worldwide.

U.S. firms are encouraged to participate in this program. Correspondence should be addressed to K. S. Lo, President, World Packaging Organization, c/o Hong Kong Soya Bean Products, 52-54 Hoi Yuen Rd., Kwun Tong, Kowloon, Hong Kong.

FOR ASSISTANCE TO EXPORTERS—*The American-Arab Assn. for Commerce & Industry, Inc., received an "E" certificate from Secretary Dent (right, above). The group's Vice President, Walter E. MacDonald, accepted the honor. At right, Tilton H. Dobbin, Assistant Secretary for Domestic and International Business, makes a presentation address at the Port of Long Beach, Calif., to port employees.*

An 'E' Sampler

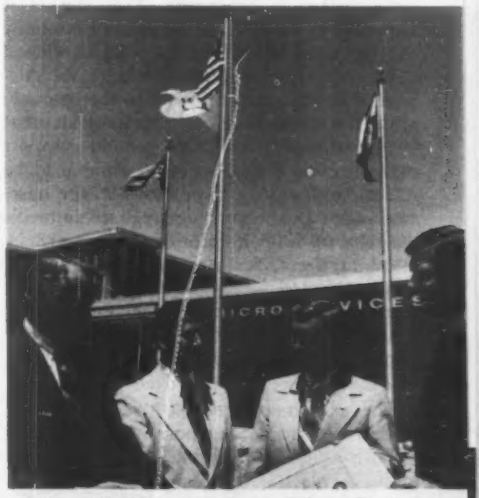
Recent Presidential "E" for Export Excellence Awards illustrate the ways in which U.S. enterprises work to aid the plus side of the national trade ledger.

Two supporters of member or client exporters are pictured: The American-Arab Association for Commerce & Industry and the Port of Long Beach. The Port is an effective promoter of fresh citrus shipments. The Association sponsors forums, market research, consultation services, receptions for dignitaries. Both send out trade missions.

Great Western Malting "customizes" its malt products in close technical liaison with customers around the Pacific rim. Micro Devices, maker of thermal safety cutoff units, has done the same and banked on close distributor contacts, advances in technology and competitive prices to triple recent export totals.

Galion, maker of road and construction equipment, has also emphasized its worldwide distributor net, offered flexibility in credit, improved after-sales service and speeded shipments abroad. Using much the same program, Rockwell has recently doubled its exports of general aircraft.

IN OKLAHOMA — *Doyle E. Bradford of Rockwell's General Aviation Division joins Senator Henry Bellmon and Lt. Governor George Nigh during "E" flag raising at the Rockwell Commander plant at Bethany, Okla.*



AT DAYTON — *Award to Micro Devices Corp. was witnessed by Dr. Felix Turel and Gordon B. Thomas, left and right, of the Commerce Cincinnati District Office. Carl F. Gigandet, Executive Vice-President, and P. Edward Merrill, President, center, accepted it.*

SYMBOLIZING WORLDWIDE ACTIVITY—*Galion Mfg. Co., Galion, O., tells its story behind the podium as Commerce Cleveland District Office Director Charles B. Stebbins is flanked by President George A. Howser and President Frank J. Sturzo of the parent Jeffrey Galion Group. Flags are appropriate at Seattle area ceremony for Great Western Malting: left to right are Russell E. Hamachek, Board Chairman, and Herbert Bostrum, Vice-President, with Deputy Under Secretary of Commerce George B. Pantos. The firm is at Vancouver, Wash.*

Trade Fairs, Centers

Expanding Singapore Air Activity Reflected In Trade Show Response

An excellent product mix aided in the success of a recent Singapore aviation ground support exhibition. Rescue and safety equipment, security detection devices, air traffic control systems, electronic and radio equipment, and vehicles and mobile units for aircraft servicing elicited enthusiastic interest.

Singapore has begun a period of rapid growth in the aviation field and is on its way to becoming a major intercontinental air center. The United States already has a dominant share of the aviation ground support market in Singapore. This market is expected to grow 25 to 30 percent annually for the next several years. The continued expansion of Singapore International Airport will be a major factor in this growth.

All of these developments indicate that the market for aviation ground support equipment in Singapore will continue to be attractive for U.S. suppliers for the next few years. U.S. companies realized immediate sales of $208,000 during the June 18-21 event at the U.S. Regional Trade Center. Sales projected for the next 12 months as a result of the exhibition totaled $6,330,000. Four new-to-market firms accounted for an impressive $2,730,000 of the projected sales figure.

The exhibition drew 607 registered visitors, most from Singapore, Malaysia and Indonesia, with lesser numbers from Australia, Cambodia, Hong Kong, Lebanon, New Zealand, Philippines, South Vietnam and Thailand.

The 16 U.S. companies exhibiting in the event were: Aviation Ground Support Corp., Barfield Instrument Corp., Bell Helicopter Co., Cessna Aircraft Co., Communications Components Corp., Frasca Aviation Inc., Garrett Corp., Infinetics Inc., King Radio Corp., Lockheed Aircraft Service Co., Lockheed-California Co., Lockheed Electronics Co., Mitre Corp., Smith Tool Co., Snap-On Tools International Ltd., and Stanray Corp.

William Goodwin of Barfield Instrument Corp., Miami, commented "the response to this trade show far exceeded many commercial trade shows we have attended in the United States." Also typical was the observation of D. M. de Steigner of Communications Components Corp., Costa Mesa, Calif. who said that it was an "excellent opportunity to introduce a new product in Southeast Asia."

Argentina Seen Purchasing Food Processing Equipment

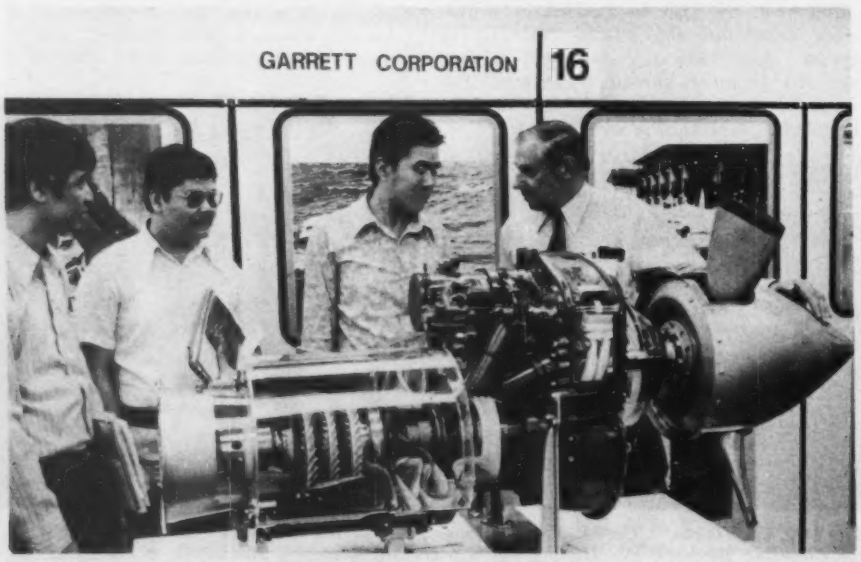
Interviews with both exhibitors and visitors at a recent Buenos Aires U.S. Trade Center show confirmed that the Argentine market for food processing and packaging machinery continues to expand, not only for more conventional equipment, but also for technologically advanced equipment.

One visitor commented about the exhibition of food processing and packaging equipment: "The products on display clearly show that the Argentine market can be supplied advantageously with products incorporating updated technology."

Sanitary pumping equipment, carton forming machines, dehiders, and high pressure cleaning equipment were among best-selling items at the June 24-28 event.

Participants expect sales of about $1.5 million over the next year, and took immediate orders totaling $170,000. Five firms new to export or the market account for $1.2 million of the projected sales. Exhibitors also participated in preparation of a 30-minute video-tape filming of the exhibition to be used in further promotion in Paraguay and Uruguay.

While supplies last, copies of the market guide used for this exhibit are available from the Latin America Division, Bureau of International Commerce, U.S. Department of Commerce, Washington, D.C. 20230.



SINGAPORE REGIONAL TRADE CENTER—*John R. Gillan, Regional Sales Manager for Garrett Corp., shows his firms' offerings to prospective buyers at aviation ground support exhibition.*

U.S. Products That Save Labor Attract Japanese Interest

Japanese businessmen who visited a Tokyo Trade Center exhibit of U.S. metal surface finishing and treatment manufacturers expressed keen interest in such products as reverse osmosis units, research equipment and other measuring instruments, plating and coating machines, and automation/labor-saving devices. In fact, U.S. exhibitors at the Metal Finishing and Treatment Equipment and Accessories Exhibition generally found that labor-saving features of their products attracted the greatest interest. This aspect of American technology remains well ahead of Japan and increases the price-competitiveness of U.S. equipment with each advance in relative wage levels in Japan.

This exhibition in late May coincided with announcements of 30 percent wage increases by leading Japanese industrial firms, and labor costs clearly weighed heavily on the minds of the show visitors. Nevertheless, at present, wage levels in Japan's lifetime employment practices are not conducive to radical shifts to automation. Gradual introduction of labor-saving machinery as capacity increases will be needed — coordinated with retraining of workers and reduced hiring of new employees (which seems to be the approach favored by most Japanese companies at this time). Many Japanese firms also plan to postpone investment in new equipment until the expected pickup of economic activity and the decline in interest rates come about later this year.

Some of the U.S. exhibitors observed that firms in the same industry in Japan tend to approach investment in new types

AT TOKYO TRADE CENTER—*Japanese visitors take a close look at the Buehler Ltd. display at Metal Surface Finishing and Treatment Equipment & Accessories Show. Exhibitors reported good results.*

PHOTOCOMPOSITION EQUIPMENT—*A young lady demonstrates equipment of Mergenthaler Linotype Co., Plainview, N.Y., at the Mexico City U.S. Trade Center graphic arts exhibition last month.*

of equipment cautiously until one or two leading companies make purchases, after which the others often follow suit rather quickly.

There are still many sales of metal surface finishing and treatment equipment to be made in the traditional heavy industrial markets of Japan. Also, application of this type of technology is increasing in electronics, precision machinery and instruments, and other high-technology industries. These would appear to be major growth areas for sales as the structure of the Japanese economy shifts toward these more sophisticated industries.

Photocomposition Items Are Big Hit At Mexico Show

The latest in U.S. photocomposition equipment generated the greatest response at a Mexico City U.S. Trade Center graphic arts exhibition last month. Products ranging from art aids and cleaning materials to saddlebinding equipment and presses, plate processors and cameras were also warmly received.

The Mexican printing and graphic arts industry is seen as continuing at its over-10 percent growth rate. It is estimated that Mexican imports of this equipment will be over $21 million in 1974. Current lower U.S. prices relative to traditionally stiff European competition should place the U.S. share of this market well over the 50 percent mark.

The Mexican printing and graphic arts industry, the fourth largest industry in Mexico's economy, numbers more than 4,600 firms and 70-80,000 workers. Major investment plans of six leading printing firms total $15 million. The continuing high cost of paper is leading the industry to reduce other costs through greater efficiency and faster operations. The interest in modern photocomposition is indicative of this trend. One representative of photocomposition equipment who had exhibited in the 1972 Mexico show on this theme remarked that the Mexican market for his products has grown substantially in the past two years.

Clyde William, Berkey Technical, Woodside, N.Y., found the show "very worthwhile" for his company's lighting equipment. William H. Buerger, Graphic Arts Manufacturing Co., Houston, was "very happy with the results of the show" and, especially, the good contacts regarding prospective representatives for his company's densitometers and instrumentation. Norman H. Quayle, Harris Corp., reported that his company not only concluded a sale of a $48,000 saddlebinder on the floor but also obtained valuable leads for future sales of printing machinery in Mexico and Central America.

High-quality attendance of the 1,957 visitors generated total floor sales of over $800,000 and provoked sales forecasts of over $12 million.

Competitive U.S. Prices, Technical Superiority Impress Australians

Favorable prices and high quality were key selling points for the 43 U.S. companies that exhibited at the first U.S. Packaging and Food Processing Exhibition in Sydney. The show attracted more than 2,400 trade visitors. Floor sales totaled almost $2 million. First-year anticipated sales total almost $10 million, of which firms new-to-export or market projected sales of $3.1 million. Food packaging and processing in Australia is already a $1.3 billion-a-year industry. The prevailing exchange rate, leading to favorable prices for U.S. products, and technological superiority of American equipment brought enthusiastic interest from Australians who came from all parts of the country.

Considerable attention was particularly focused toward specialized and highly automated equipment of medium capacity. Machinery having wide application within the packaging industry, and also general industrial uses as well, had the greatest interest and sales potential. Among equipment which was reported to have sold well were all types of materials handling equipment, automatic packaging and wrapping equipment, automatic pricing and labeling equipment, check weighers, printer/coder systems, hot melt applicators and guns, bag closers and bag tying and sewing machinery, and strapping tools.

AUSTRALIA SHOW—*Bob Barker (left), Packaging Manager of Woolworths, and Arthur Wright of Dennison Marking Systems Pty. Ltd. examine a print-out of the Dennison Maxi-Print Mark II. U.S. goods were well received.*

Worldwide Business Outlook

Hungary Aims At Further Progress After Topping Planned Output Goals

The 1973 performance of the Hungarian economy exceeded nearly all expectations, according to Hungarian official statistics. Indicative of this success was the announcement that national income had increased by 6.5-7 percent, substantially above the planned 4-5 percent increase.

Industrial production for 1973, which accounted for 43 percent of national income, climbed 7.2 percent, well exceeding the 5.5-6 percent planned rate. In addition, agricultural production, accounting for another 17 percent of national income, exhibited a 5 percent increase in growth. Significantly, sales of surplus grain and meat played a major role in creating Hungary's first trade surplus since 1969 with countries outside the COMECON (Council for Mutual Economic Assistance) area.

Statistics for the first third of this year indicate that the economy is continuing to grow at a rapid rate. Hungary's economic plan for 1974 projects increases of 5 percent in national income, 5.5-6 percent in industrial output, and 5-5.5 percent in productivity, as well as a 10-11 percent rise in investment. Nevertheless, important problems await solution as new investment appears to be still lagging and the government's anti-inflation campaign is proving to be far more expensive than originally anticipated.

During the medium-term future, it is likely that the Hungarian economy will be confronted by major challenges resulting from the high cost of raw materials, the need to modernize large segments of Hungarian industry, continued deterioration of the manpower situation, general worldwide inflation, and rising expectations of the population for higher wages, more consumer goods and increased social benefits. While at present there is optimism that the challenges can and will be met, it is unlikely that they will be achieved without a marked decline in the industrial growth rate, additional foreign borrowing, and sizable imports of Western technology.

A marked degree of uncertainty also exists concerning the total 1974 Hungarian trade outlook. The higher cost of raw materials and machinery make it extremely unlikely that Hungary will repeat the $100 million trade surplus it registered with the Industrialized West in 1973. Moreover, the recent EEC embargo of beef imports threatens to have serious consequences for the Hungarian balance of trade. Exports of meat to Italy in 1973 alone amounted to about $170 million, or roughly 10 percent of all Hungarian hard currency exports.

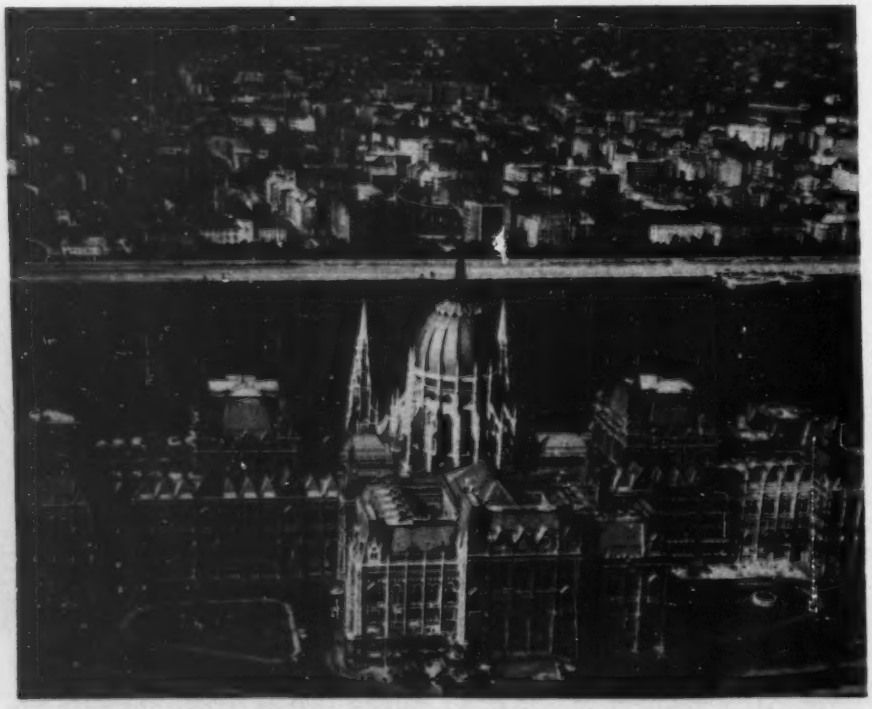
Nevertheless, the climate for Western businessmen in Hungary continues to improve. The Hungarians have concluded an agreement with the West German firm Siemens for the formation of a joint company, the first such agreement under the joint venture law of 1972. Presently, several U.S. firms are discussing joint venture possibilities with Hungarian counterparts. The Hungarians have, moreover, exhibited new willingness to make effective use of world money markets. Just recently, the Hungarians announced acquisition of a $100 million loan from a group of U.S. and Canadian banks.

Total U.S.-Hungarian trade continued to grow in 1973, up 50 percent from 1972 to a record $50 million. In 1974 U.S. exports to Hungary are expected to reach $45 million, a 36 percent jump over the $33 million 1973 level. U.S. imports from Hungary are also expected to rise substantially over the $16.4 million recorded in 1973.

This favorable trend in U.S.-Hungarian trade has persisted despite the absence of most-favored-nation (MFN) treatment for Hungary, together with the presence of a high Hungarian retaliatory tariff. Leading Hungarian officials have stated that with a positive resolution of the MFN question bilateral trade could increase to at least $200 million per year. Judging from Hungary's relatively high levels of trade with other developed Western countries, this projection does not appear to be unrealistically high.

Hungarian imports from the United States have been limited principally to agricultural commodities and farm machinery, with soybean oil cake and meal accounting for nearly 50 percent of the total. Other principal imports in 1973 included large numbers of American tractors and planting equipment, and American livestock which are being purchased in large quantities for breeding purposes. Additional significant Hungarian import items were cattle hides, air and gas compressors and components for electronic data processing machines.

Almost half of Hungary's exports to the United States in 1973 consisted of processed food and beverages. For example, more than $5 million worth of Hungarian canned hams were transported to the United States, making this the largest single export item. Despite this present American concentration on imports of food items, there appear potential opportunities in Hungary for American businessmen in such industries as machine tools, small computers, medical instruments, pharmaceuticals and telecommunications equipment. Further development of the Hungarian aluminum industry, certain branches of the chemical industry, and various energy related industries offer increased opportunities for American businessmen.



HUNGARIAN PARLIAMENT BUILDING IN BUDAPEST—*The increasing numbers of U.S. businessmen visiting Hungary are discovering that the country also offers scenic attractions.*

Strengthening Of Norwegian Demand Brings Unusual Gains to U.S. Suppliers

A general economic upswing is now under way in Norway, reports the U.S. Embassy in Oslo, and U.S. sales are soaring as Norwegian industry gears up to meet expanding demand. Imports from the United States almost doubled during the first four months of the current year compared with the same period of 1973. Most of the U.S. gains were real and reflect current distortions in trading patterns as well as increased U.S. competitiveness.

Most leading economic indicators, including industrial production, orders, inventories and investment plans, point toward a continuation of the upward trend which, however, may be contained by increasing shortages of capacity and manpower. Investment demand has now replaced export demand as the prime growth factor, although demand from abroad is brisk.

Commodity imports are rising rapidly because of extraordinary price hikes in the last half year and because uptrending production warrants larger import volumes. Inflationary pressures are still very much at work in the economy but, compared with price developments among its major trading partners, Norway's competitive position does not appear to have been impaired.

Continued strengthening of industrial demand; price increases, especially in raw materials and semi-manufactures; and continued weakness of the dollar all have contributed to the extraordinary U.S. export performance in the Norwegian market. During the first four months of 1974, total Norwegian imports increased some 45 percent, while imports from the United States soared 92 percent. The U.S. share of the Norwegian import market jumped from 6.6 percent to 8.8 percent, and our position as number four supplier country to Norway strengthened, largely at the expense of Denmark and the United Kingdom, whose market shares slipped from 6.7 percent to 5.8 percent and from 12.6 percent to 11.3 percent, respectively.

With the exception of the category "transport equipment" (where the bulk of the gain represents delivery of a semi-submersible drilling rig), the spectacular percentage gains took in non-traditional market sectors and reflect current distortions in trading patterns caused by worldwide shortages of raw materials and capacity, as well as increased American competitiveness. The opportunities for sustained growth, however, probably lie in those categories where the United States has traditionally been strong: transport equipment, electric and non-electric machinery, and instruments. Considering the market opportunities that exist or that are on the horizon, it appears that there is still room for expansion in these sectors.

Equipment for the Norwegian oil industry, for example, falls in all four sectors, and despite an official government policy of "make haste slowly" in the development of Norwegian off-shore oil and gas resources, this market should remain strong for some time to come. Norwegian interests have more than 40 drilling rigs on order (including from the United States), and Norwegian shipyards have over 27 orders for rigs on their books.

While official policy grants preference to Norwegian suppliers, Norwegian industry is by no means in a position to furnish all the equipment that is needed. There is current demand for subsea equipment, blowout preventors, risers, rotary tables, draw works, mud pumps, mud treatment systems, gas turbines, generators, and electrical systems and components.

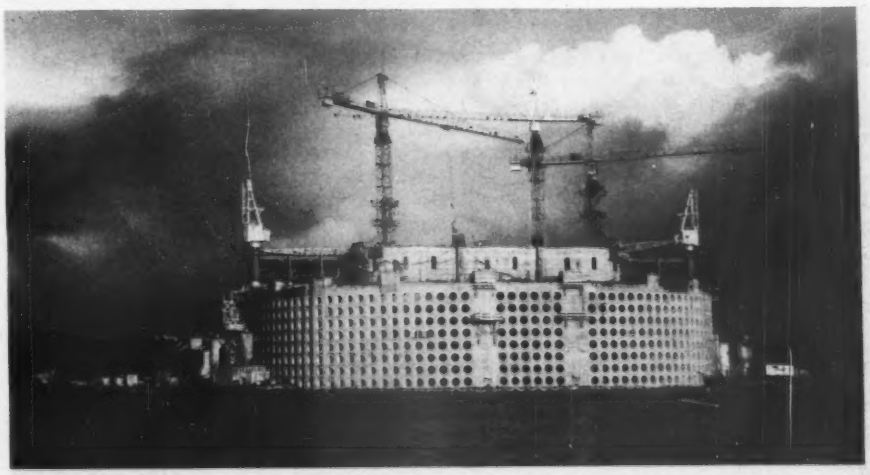
And although government policy may slow the overall tempo of offshore exploration operations in the future, seven new concession areas are expected to be awarded this year with the understanding that exploration on them should begin rapidly. American companies are strong contenders for these awards. Additionally, development of the giant Ekofisk and associated fields continues apace, and development of the Frigg gas field will soon be under way.

Martime equipment remains one of the most attractive markets in Norway, and Norwegian trade sources continue to express amazement that U.S. manufacturers and exporters appear to be less active in Norway than they might be. Equipment in this sector with high sales potential includes underwater painting equipment; waste disposal systems; explosion-proof fans; cryogenic pumps for LNG carriers; all types of on-board pollution control equipment; omega and satellite navigation systems; gas detection instruments; underwater hull inspection equipment; and sophisticated fire detection, extinguishing, and alarm systems.

Norway has a relatively high proportion of heavy polluting industries: pulp and paper, primary metals, fish processing, and others. Pollution limits for individual plants have now been set by the authorities, and a wave of investment in pollution control equipment and instrumentation is expected, beginning this year. Market research indicates strong potential demand, particularly for sampling and analyzing instruments.

A list of specific products with high sales potential has been published by the U.S. Department of Commerce in connection with the "Ecology 75" exhibition to be held at the U.S. Trade Center for Scandinavia, located in Stockholm, Dec. 9-13. U.S. firms interested in entering, or expanding sales in, the Norwegian and other Nordic markets should seriously consider participating in this show. As its name indicates, the reach of this U.S. government trade promotion facility is area-wide, and it is expected that a large number of prospective buyers and end-users will attend.

In the not-too-distant future a new industry will come to Norway—basic petrochemicals. Current plans call for construction of an ethylene cracker and associated vinyl chloride, polyethylene, and polyurethane plants; other facilities, based on Norwegian North Sea natural gas and gas liquids, are under consideration. Development of this industry will create expanded sales opportunities for processing equipment and process and pollution control instrumentation.



WATER LEVEL VIEW OF "EKOFISK ONE"—*Looking across the waters of Hillevagen, near Stavanger, Norway, provides an impressive view of "Ekofisk One", the world's largest offshore oil tank. The massive one million barrel tank is shown in the later stages of its construction earlier this year. Its permanent location will be at one end of Ekofisk Center. The Center, more than a half mile long and connected by bridges, is the operational complex for the development of Ekofisk and other nearby fields in the Norwegian North Sea.*

Open Door, Economic Independence Cornerstones Of Zaire's New Policy

U.S. businessmen can expect expanding opportunities in the Zaire within the framework of a new market structure. The changes are developing in accordance with far-reaching decisions announced by President Mobutu Sese Seko in his landmark speech of Nov. 30.

Myron Brockway Lawrence, Commercial Attache at the U.S. Embassy in Kinshasa, reports that for some time the country had been moving toward carrying out a policy of achieving economic independence from the former colonial power (Belgium) and other European countries. The principal points made in Mobutu's speech were that the Special Law on Commerce of Jan. 5, 1973, would be enforced, that agricultural enterprises and agrobusiness firms would become the property of the State, that by 1980 all Zairian copper would be refined in the country before being exported, and that petroleum importing and distribution would be nationalized. The Law on Commerce provided that all trade, including imports and exports, henceforth be reserved for Zairian citizens.

In a recent address before the American Businessmen's Association of Kinshasa, M. Ndongala Tadi Lewa, State Commissioner (i.e. Minister) for Commerce said that the country's policy is based on two national doctrines: the open door and economic independence. By open-door policy the Zaire means application of the most-favored-nation clause to all nations, which, the Commissioner said, should lead to generalized preferences. The policy would also permit the Zaire not only to increase its international trade, but also to diversify its economy and its trading partners. The advantages of the open-door policy, of the most-favored-nation clause, and of generalized preferences would be lost, however, if not accompanied by economic independence, added the Commissioner.

To carry out this policy of Zairianization, the government has created a Zairian Foreign Trade Center (CEZAC) and seven offices to market agricultural products such as wood, coffee, sugar, grains, and vegetable oils. CEZAC is to finance market studies abroad and the presentation of Zairian products at international fairs.

The Zaire's trading partners are free to choose their representatives from among Zairian businessmen. Local manufacturers may also choose their distributors in the same way. Exports of mineral products are left to the initiative of the producing firms.

The Zairianization measures do not affect foreign investment projects in the manufacturing or minerals field. Such companies are free to import directly their equipment, semi-finished products, and raw materials. Exemptions were also made for international commercial companies that complied with the laws forbidding triangular trade (i.e. those companies that import directly the products of their parent firms without using a third-country intermediary).

Although some observers predicted the take-overs would bring Zairian commerce to a halt, the disruption in Kinshasa was minimal. In the interior, however, ... trade was largely in the hands of Asian, Greek, and Portuguese traders, few orders were placed for imported goods after Nov. 30, and shortages occurred widely. The new owners are gradually taking over, but several more months will probably elapse before distribution channels are again operating normally.

The real growth rate of the Zairian economy for 1973 is estimated at 6.3 percent, compared with an expected 5 percent. Most of the increase was due to activities of the manufacturing and mining sectors. The price of copper rose to unprecedented levels, and the Zaire therefore enjoyed not only a trade surplus but also a balance of payments surplus for the first time in four years. The production of copper increased to 489,000 tons for 1973; the national goal is 600,000 tons a year by 1980.

Among sectors expected to provide especially good markets for American goods are mining machinery, communications equipment and systems, electrical switching equipment, building and construction supplies and equipment, equipment and instrumentation for health-care industries, materials handling equipment, and vehicle maintenance equipment.

Gécamines, the government-owned mining complex at Lubumbashi, is getting its expansion program under way. The program calls for expenditures that could go as high as half a billion dollars, including not only new mining and refining facilities but town construction as well. Gécamines hopes to complete the program by 1977. The international Charter Consolidated consortium, *Société Minière de Tenke-Fungurume* (SMTF) will be coming on stream in 1976, and is beginning to place orders. Buying offices of the consortium, however, are in England, and not in Zaire. There are also several American firms that are discussing possible joint ventures with the Zairian Government, all of which should provide a good market for U.S. mining machinery and equipment during the next few years.

The Zairian Government is determined to cover the country with a modern communications network. The French and Canadians are building microwave links into the interior, and the government is examining bids for construction of an educational-television network by satellite that will provide at least one color television set in almost every village of the country and also carry telephone communications. One of the bidders is American. This interest in communications should offer worthwhile opportunities for American products.

Financial agreements for the Inga-Shaba high voltage, direct current transmission line were signed in February, implementing the construction contract that was signed a year before. An American consortium headed by Morrison-Knudsen is moving ahead on this 1,100-mile line, which must

Most Important Zairianization Measures

As noted in the accompanying article, President Mobutu's speech last November has been followed by several important measures affecting the Zairian economy. The most significant are outlined below:

Commerce: Foreign-owned import, export, wholesale, and retail businesses have been sold to Zairian nationals on ten-year compensation terms. Some exceptions were made, especially for direct sales subsidiaries of foreign manufacturers, but most U.S. exporters will have to sell through Zairian agents in the future. U.S. exporters can use the Department of Commerce World Traders Data Report and Agent/Distributor Services to identify new trading contacts.

Agriculture: With a few major exceptions, all plantations and ranches have been taken over by 10 national agricultural offices. The export of logs has been prohibited except by Zairian nationals.

Mining: The government has nationalized the remaining foreign interests in former affiliates of the *Union Miniere*. All new mining enterprises must be 50 percent government-owned and by 1980 all copper production must be refined in-country.

Petroleum products: The government is negotiating the takeover of all petroleum distribution facilities by a new State agency, PETROZAIRE.

Shipping: All Zairian exports and government imports must be shipped through the national shipping line, *Compagnie Maritime Zairoise*.

Foreign direct investment: Although the ownership of foreign firms established in Zaire under the 1969 Investment Code was not affected, all firms established five years or more are required to appoint Zairian nationals as their presidents and general managers.

be completed by Jan. 1, 1977. The line will not only offer opportunities for American products in construction itself, but the take-off points along the line will call for purchases of electrical switching equipment. Such equipment will also be needed at the Shaba end. The contract also calls for access roads along the line, which are expected to open up new regions of the country that should in time provide future markets.

Health-care and medical facilities are being expanded and should provide good markets for American manufacturers. Until now the only medical facilities existing in most of the interior were those provided by foreign missions, and the government is eager to expand the facilities with Zairian establishments.

As one of the highest priorities in economic development of the country, the Zairian Government is determined to rehabilitate the transportation system, which disintegrated during the chaotic period from independence until 1965, to build new roads, and to set up a program of road maintenance. Several international organizations and foreign governments (including the United States) are helping in this project, and the market for earthmoving and vehicle maintenance equipment should be good for some years to come. River transportation is also high on the list of priorities, and as new port facilities are provided more materials handling equipment will be required.

Construction supplies and equipment will find a ready market as building continues apace. Two sizable hotel projects are being discussed for Kinshasa, both involving U.S. hotel companies, as well as plans for other parts of the country. Office space is still at a premium in Kinshasa and the need will increase in Lubumbashi as mining expansion brings more people to the area. To these opportunities should be added the town construction that both Gécamines and SMTF will be undertaking.

Thai Import Duty Cuts Range Up To 90 Percent

The Royal Thai Government has reduced import duties on approximately 300 items, effective July 10. Reductions for items listed in the updated tariff and customs code for Thailand range from 30 percent to 90 percent. Duty reductions of 33 percent were given for many chemicals and some machinery items; 66 percent for various pharmaceutical products; and 90 percent for metals. In addition, many other items are reduced throughout the tariff schedule.

Specific information concerning Thailand's duties may be obtained from the Far East Division, OIM/BIC, U.S. Department of Commerce, Washington, D.C. 20230.

Peruvian Economy Growing Steadily; Investors Face New Ground Rules

The Peruvian economy, despite increased import costs, a higher rate of inflation, and concern over the value of the Sol, is expected to grow at 6 percent in coming months due to increased export earnings and expansion of domestic demand. U.S. exporters of many products are finding a growing market in Peru, and opportunities exist for foreign investors who understand the new rules-of-the-game as defined by the Peruvian Government and related Andean Pact regulations.

Industrial sector activity is increasing in step with overall GNP, with moderate growth in manufacturing activity. Specific industries currently showing the greatest production gains include: furniture manufacturing; building materials, especially cement; food processing; textiles; fishmeal processing; and printing and publishing.

Public investment and personal consumption spending will remain the most dynamic factors affecting Peruvian demand. Private domestic investment will continue to be sluggish. Private foreign investment will grow, but will be limited principally to extractive industries. The construction, manufacturing, service and commercial sectors will provide most of the internal growth in the economy, with the fishmeal industry recovering to possibly 30 percent of normal. Growth in the agricultural sector will fail to match population growth.

The balance of payments deficit expected for 1974 should be of manageable proportions owing to large gross capital inflows to the public sector which should offset deficits on current and short-term capital accounts. Peru has issued mandatory 180-day import credit requirements and has reduced foreign exchange quotas to private sector importers which may cause shortages and reduce production. These measures have added to uncertainty in the private sector. In addition, the higher cost of Peru's petroleum and agricultural imports will be largely offset by higher mineral export earnings.

For these reasons, plus the inelastic world demand for Peru's exports and a healthy net international reserve figure, devaluation of the Sol, although widely rumored, is unlikely.

The Peruvian Government has promulgated its new social property law for the creation of worker-managed enterprises which are eventually supposed to constitute the predominant sector of the economy. A few such enterprises are expected to be launched this year. Further, additional basic industries have been taken over by the State, and new, clarifying regulations about the operations of the industrial communities may be announced soon.

In sum, despite inflation, lack of new private investment, and slow agricultural growth, Peru's economy is probably as sound as those of most nations of the hemisphere.

U.S. exporters of capital goods, intermediate goods and raw materials, and certain agricultural products (e.g., wheat, vegetable oil) should encounter growing markets in Peru in coming months as a result of expanding investment and improvement in the relative price competitiveness of U.S. goods. The minimum credit requirements for imports recently imposed by the government will increase the cost of imports and exclude some smaller scale importers who will not have access to such credit, and, in general, credit terms and conditions will be increasingly important for exporting to Peru for the next couple of years due to Peru's difficult balance of payments situation. Imports of most non-essential consumer products and goods already produced locally are prohibited.

Most public sector imports will be those connected with the major projects being developed by the government, which include: several irrigation projects, a fertilizer plant, copper, zinc and lead refineries, expansion of the steel complex, a petrochemical industry, a metal mechanics industry, oil exploration, wood and paper industries, port expansion, and various mining, hydroelectric, and transport and communication projects.

There are opportunities in Peru for foreign investors; however, the investor must be willing to abide by the country's rules governing foreign investments, most of which parallel Decision 24 of the Andean Pact. Under these rules, investors remittances are limited to no more than 14 percent of invested capital and investments will be subject to a fade-out formula aimed at reducing foreign ownership to a minority position over a given number of years.

Most future investments will probably consist of joint ventures with State or Peruvian private capital, with the foreign proportion limited to a minority or to less than 20 percent if the firm is to be designated "national" and thus benefit from advantages offered by the Andean Pact. Also, all firms operating in Peru are subject to the Industrial Community provisions of the General Industries Law. Under this law, workers receive an annual share of 15 percent of pretax earnings with which they acquire equity in the enterprise until 50 percent ownership is reached.

Notwithstanding these restrictions, investors may find some opportunities, especially in terms of supplying the Andean market. Additional profitable opportunities exist for firms interested in developing turnkey projects for the Government.

Reconstruction, Expansion Needs Make Nicaraguans Eager Buyers

Nicaragua's vigorously expanding economy, led by reconstruction of the earthquake-destroyed capital, Managua, offers growing opportunities to U.S. exporters. Not only has reconstruction stimulated demand for imports, but increased income from record crops and world prices, insurance payments and international lending have provided Nicaragua the wherewithal to pay for its needs, reports Commercial Officer Robert A. Gehring from the U.S. Embassy in Managua.

Nicaragua's economy in 1973 showed surprising resilience in the face of disasters of unprecedented magnitude in 1972. First a drought ruined the food grain crops, then an earthquake in the center of Managua destroyed nearly all of the city's commerce, government buildings, many homes and 10-15 percent of local industry.

Confounding the forecasters

Despite dire predictions, the 1973 real gross domestic product of Nicaragua grew by 2.4 percent in 1973 to $772 million. Major sectors of growth were those related to reconstruction or earthquake compensation. The Central Bank projects that in 1974 GDP will increase by 8 to 10 percent in real terms, based on the excellent agricultural output of the 1973-74 crop year as well as a further substantial increase in construction.

Foreign trade grew at a healthy rate in 1973. Exports increased by 10 percent to $275.7 million. This year and next are expected to be even better. Preliminary government estimates show 1974 exports of $362 million, a 31 percent increase over 1973, and $426 million in 1975. Further increases are projected in sales of raw cotton and of manufactured products in 1975.

Imports grew even more rapidly in 1973, by more than $100 million to $319 million. The U.S. share of these imports also grew, to about 36 percent as compared to 31.6 percent for 1972. Imports are projected to rise another 40 percent to $445 million in 1974. The areas of sharpest import growth will be petroleum products, raw materials and intermediate products for agriculture and industry, and transportation equipment. Substantial increases in purchases of capital goods for agriculture and industry and construction materials are also expected.

While Nicaragua experienced a substantial trade deficit in 1973, compared with a surplus in 1972, the deficit is not expected to grow as the increase in exports is expected to roughly keep pace with the increase in imports through 1975. The recent history and outlook for the balance of payments is somewhat different, however.

As a result of the trade surplus in 1972 and large influx of insurance payments and international loans in 1973, Nicaragua registered a $35 million payments surplus in 1972 and $32 million in 1973, and should show a small surplus at the end of 1974.

The major negative factor in the economy has been a rapid rate of inflation, which substantially exceeded 20 percent in 1973. The Central Bank announced measures in May to limit credit growth for the rest of 1974. While these measures should be helpful, strong inflationary pressures will continue.

The reconstruction of Managua, a process that will take 10 years or more, has only just begun. Demolition and clearing of the totally destroyed downtown area is nearing completion. To date, post-quake rebuilding, predominantly of commercial structures, has been in the suburbs. The next phase of rebuilding will feature more the construction of housing and government and private office buildings.

Potential for U.S. sales

There are a number of areas that offer great potential for increased U.S. sales, including materials, equipment and hardware for construction; consumer durables; restaurant and hotel equipment; food processing and packaging equipment; transportation equipment; hospital supplies; agricultural equipment and irrigation equipment.

The reconstruction of Managua offers a large, long-term market for most types of building materials and nearly all categories of hardware. Certain building materials which are produced within CACM are effectively protected by high tariffs. These include cement and cement products, lumber, bricks, and plumbing fixtures. Other products, such as glass and steel and aluminum beams, are primarily supplied from outside CACM. Still others, despite protectice tariffs, are competitive on the basis of quality and/or ready availability; these would include paints, lighting fixtures, fancy tiles and prefab buildings. All types of hardware are imported, including power and hand tools, electrical fixtures, hinges, handles and locks, garden tools, etc. Items incorporating advanced technology, such as special adhesives and sealants, also enjoy ready acceptance.

Another opportunity presented by reconstruction is for sales of special purpose construction equipment. U.S. producers of heavy construction equipment—bulldozers, cranes, road graders, etc.—are already well represented. However, a manufacturer of some special purpose equipment might well be able to find a representative here.

As housing construction takes an increasingly larger share of the reconstruction effort, sales of all types of major appliances—stoves, refrigerators, airconditioners—will spurt. New office space will stimulate the market for business machines and office equipment.

It is estimated that about 510 hotel rooms were destroyed in the earthquake. Only one major hotel with about 210 rooms survived.

NICARAGUANS ARE HARD AT WORK—*The reconstruction of earthquake-destroyed Managua is providing opportunities for U.S. exporters of construction equipment and materials, hardware and consumer goods. Above, work proceeds around the new Nejapa Shopping Center.*

Since the quake, a number of small rooming house-style hotels have opened but to date no new first-class hotels have been built. There are plans, however, for at least four to be built in Managua beginning next year. Hotel construction plans have also been announced for the departmental cities of Leon, Chinandega and Rivas. The one in Rivas is to be a recreational complex. All of these hotels will need equipment.

While the number of restaurants has expanded rapidly in the last 18 months, many more are yet to be opened in the many new shopping and office complexes being built. The short-order variety will probably be the most common.

The food processing and packaging industry appears to be on the verge of substantial expansion. A number of investors are looking into possibilities of developing both canning and freezing facilities for a variety of products, for markets both locally and within CACM and in the rest of the world (especially the U.S.).

Rebuilding hospitals

The Government of Nicaragua is initiating a campaign to upgrade the quality of public transport, including government assistance for purchases of up to $5 million worth of new buses for intercity transport. Another possibility for U.S. sales is small intercity buses—20 to 40 seat capacity.

Before the earthquake, Managua had approximately 1,600 beds in civilian hospitals. Currently there are about 400, with another 500 to open soon. There are plans for additional hospital space to be built over the next four years, implying a continuing need for hospital equipment, a market in which the United States has a decided edge.

Large commercial farmers will continue to provide a strong market for U.S. agricultural equipment and supplies. Last season's very good cotton crop, excellent prospects for another good crop this year, plus continuing high world fiber prices, have combined to produce highly receptive equipment buyers. All types of irrigation equipment—pumps, pipes, spray heads, connectors and drilling machinery—will continue to find a ready market.

An investment decision in Nicaragua is a purely economic decision in almost every field. The consensus among government officials, the public and the major political parties is strongly in favor of a free enterprise system. This attitude, combined with a relatively secure local business community which does not feel threatened by foreign companies, has largely eliminated political factors from investment calculations.

Nicaragua has earned a high rating from the Overseas Private Investment Corporation and political risk insurance is easily available. Foreign investment, whether by private individual or multinational companies, joint venture or wholly-owned, has been and should continue to be welcome.

Danes Attaching High Priority To Labor-Saving Equipment

Reduced construction activity, public sector restraints and less expansive moods in investment in general are reducing Danish economic growth to a probable 2-3 percent in 1974. Bright spots are beginning to emerge, however, and business and industry will need large investments in coming years, according to Robert G. Kemp, Commercial Attache at the U.S. Embassy in Copenhagen.

With only slight prospects of growth in the total labor force and growing labor demand in the public sector, it is estimated that the number of employees in the private sector will decline by 100,000 over the next 12 years. Sustained growth of output in the private sector can, therefore, only come from greater productivity—increased production per man-hour, meaning more investments per person employed. The United States is in good position to supply not only the machinery but also the know-how to achieve this increased production.

Kemp goes on to discuss prospects in some of the key areas for U.S. exports to Denmark.

Construction Materials and Equipment: The construction sector has been particularly hard hit by the present economic slowdown. Projects in the public area are being deemphasized, resulting in a lessened demand for heavy roadbuilding equipment, utilities, and machinery used in public housing construction. In spite of this, a large American company reports that demand has remained steady for large diesel power units for the industry. A recent American plywood trade mission seemed optimistic that housing forecasts would pick up. Use of construction grade plywood in Denmark is growing and prospects of popularizing specialty textured ply for interior finishing and particularly for gable trim on new homes are extremely interesting.

Work on the proposed Saltholm Airport and the Great Belt Bridge has been postponed and may well run into further delays. Government procurement is moving along at a slow pace with only necessary purchases being undertaken. This will probably be reflected in cutbacks in equipment purchases for schools and hospitals as well as modernization plans for the Copenhagen Airport.

Metal Working Equipment: The energy crisis has underscored, more strikingly than the country's new competitive position as a member of the European Community, the overriding urgency for rationalizing production. This is clearly observed in the area of machine tools. Danish agents report brisk business in sophisticated and versatile metalworking equipment. In contrast to the United States, where large runs are standard, many Danish plants require machines that can be quickly adapted to a multitude of manufacturing functions.

Many Danish firms are using for the first time numerically controlled tools which a few years ago would have been considered an unnecessary luxury. Large Danish plants are greatly interested in American machine centers with their automatically operated tool changers. One manufacturer offers servicing through a built-in mini-computer which is connected to the U.S. firm's master computer via satellite circuit and trouble-shooting is done in a matter of minutes.

Chemicals, Drugs, Plastics Raw Materials: The expected slowdown in home market demand for plastics in light of the energy crisis has not materialized, at least not to the extent anticipated. According to local trade sources, the Danish market still looks promising for U.S. manufacturers of plastics raw materials, with Denmark holding its position as one of the world's leading per capita consumers of plastics.

However, U.S. exporters should bear in mind the fact that Denmark traditionally has been a low price market for polyethylene and PVC, and Danes are shopping around in order to obtain lowest priced materials. At the moment, PVC is of special interest, with a general shortage in the European market. Polystyrene and nylon continue in short supply. A general shortage in this field caused by lack of production capacity, from feedstock to finished product, is expected to continue into 1976.

The interest in advanced pharmaceutical specialties continues, and the United States should benefit.

Danish ammonia consumers are now looking for sources of supply outside the United States, the traditional main supplier. This is described by Danes as due to an apparent reduced U.S. interest in the Danish market. Danes report that there apparently is increasing demand for ammonia in the Latin American market, which offers better profits.

Aircraft and Engines: Danish charter airlines do not foresee additional requirements for new equipment over the next 2-3 years, other than normal purchases of parts. The reason for this is a general stagnation in the travel sector. U.S. prospects for expansion of aircraft and parts exports should be found in the field of general aviation, where the Danish market appears to be only modestly exploited.

Protection of the Environment: The interest in problems connected with pollution control, increasingly evident during recent years, is expected to reach its first peak with the new Environmental Control Legislation, originally scheduled to come into force on

April 1, but deferred until Oct. 1. From the end of 1973 and 10 years ahead, the authorities are calculating investments of approximately 10 billion Dkr. to combat the spread of pollution, particularly water and sewage treatment. More than half of this amount will be covered by the industrial sector.

U.S. products are widely represented in the Danish market, covering probably 20 percent of total imports of pollution control equipment. The United Kingdom and West Germany are also favored, and Danish products have proved competitive on the domestic market as well as abroad.

Among products having good sales prospects are the following: catalytic equipment; condensation nuclei counters; electrostatic precipitation; air, gas and smoke meters; sulfur dioxide monitors, spectrophotometers, effluent monitors; flocculating and flotation equipment; PH, sewage, sludge, water and salinary meters; oil separators; high volume reverse osmosis equipment; sludge concentration and incineration equipment; landfill equipment; recycling process equipment; acoustical doors and windows, and sound control panels.

Printing and Graphic Arts Equipment: The Danish printing and graphic arts industry has enjoyed healthy growth during the past few years. An industry spokesman looks for continuation of growth from 40 to 60 percent in the years immediately ahead. The most interesting sectors for U.S. business should be in composing room equipment and systems, with binding and finishing equipment a good second. Computerized phototype setting equipment of U.S. manufacture is the front-runner in Denmark, and the market for film and photopolymer plates is dominated by U.S. manufacturers. Printing for packaging has had excellent growth and should continue its high rank in the printing field. Cello and plastic printing as well as foil printing will continue to grow as the market for packaging in these materials gains wider application. In-house printing equipment is finding acceptance in many firms.

Food Processing and Packaging Equipment: Denmark is the Community's largest per capita consumer of frozen foods and, possibly next only to the Swedes, is a large market for processed foods of every type. The impressive volume of butter, cheese, and processed pork consumed at home and exported, makes Denmark a good customer for sophisticated processing and packaging equipment.

Areas of particular interest to food processors at the moment are in automatic equipment for controlling product from mixing to processing to portion packaging and marking/pricing. Techniques for reducing use of water in production and recycling of waste and water as well as aseptic packaging are receiving industry-wide interest. The present market of over $45 million for this imported equipment is expected to double by 1978. American brands have a good name and quality image.

Computers and Related Equipment: Denmark remains an attractive market for U.S. and U.S.-branded EDP equipment. According to official import statistics, the U.S. share of this market amounts to approximately 40 percent, and this share is projected to reach 50 percent by 1977. (The actual market share, including equipment from U.S. subsidiary firms located in Europe, is probably close to 90 percent.) Items offering the best sales possibilities are mini-computers for invoicing, payrolls, and inventory control, but increasing interest in time-sharing has also created a growing demand for larger computers. In addition to computers and peripheral hardware, the following types of equipment should enjoy good sales potential: graphic data systems, keyboard to disc printers and disc files, magnetic core storage and interface devices.

In the field of computer related equipment, electronic calculators of desk and pocket types have become increasingly popular in all branches of business and should have good sales potential. U.S. manufacturers of office equipment, in general, as well as systems of advanced design and time-saving properties should also find Denmark a market well worth investigating.

Consumer Goods: American products in a wide range of consumer goods have good sales prospects. American men's shirts have achieved a small but secure hold on the Danish market. Men's and women's sport and leisurewear as well as teenagers' apparel and infants' knitwear enjoy increasing sales. Bathroom sets and terry towels have a firm share of the quality market and kitchenware is increasingly popular.

Calendar For World Traders

Sept. 3—New York—FCIB Round Table Conference on International Finance, Credit, Collection and Exchange Problems, Summit Hotel.

Sept. 5—Memphis—Mid-South Exporters Roundtable.

Sept. 9—Cleveland—Ohio Foreign Commerce Assn. luncheon meeting, Athletic Club. Speaker: Charles Stebbins, Director of Commerce's Cleveland District Office. For information, Lester P. Aurbach, 216-861-3754.

Sept. 10—Louisville—Kentuckiana World Commerce Council Meeting, Holiday Inn Brownsboro East.

Sept. 11 — New York — FCIB Publishers Export Credit Group luncheon meeting, Advertising Club.

Sept. 12—Birmingham—Annual Alabama International Business Forum: Doing Business in South America. Commerce's Bernard Cahill will speak.

Sept. 12—New York—Overseas Automotive Club luncheon meeting, Summit Hotel.

Sept. 17 — Memphis — Memphis World Trade Club, Southwestern University.

Sept. 17—New York—FCIB Hardware-Automotive & Allied Trades Group luncheon meeting, Advertising Club.

Sept. 18—New York—Establishment of an Export Department, first seminar in a 10-week series presented by International Executives Association.

Sept. 19—New York—FCIB Drug, Chemical & Food Export Club luncheon meeting, Advertising Club.

Sept. 20—Canton, Ohio—Export Expansion Conference, Kent State University. Keynote speaker: Secretary of Commerce Frederick B. Dent. For information, Greater Canton Chamber of Commerce, 216-456-7253.

Sept. 23—New York—Seminar on Business Opportunities for Trade and Investment with the Middle East Oil Countries. Sponsor: Advanced Management Research International, Inc. Speakers will include Commerce's David Westley.

Sept. 23—New York—Long Island Association World Trade Club luncheon. Guest speaker: William J. Casey, President of the U.S. Export-Import Bank.

Sept. 23-27—New York—American Management Association course on Fundamentals of Modern Personnel Management.

Oct. 2-4—New York—International Tax Compliance Workshop, World Trade Institute.

Oct. 7-9—New York—Course on Making Profitable Decisions in International Physical Distribution, World Trade Institute.

Oct. 15-17—New York—Three American Management Association briefings on Trade and Investment in the Middle East (Iran, Oct. 15; Saudi Arabia, Oct. 16; Egypt, Oct. 17). Speakers at each session will include Peter Hale of Commerce's Near East-South Asia Division.

Oct. 21-23—New York—American Management Association briefing on Evaluating Business Prospects in Southeast Asia. Speakers will include Thomas Moore, Irvin Lloyd and Ann Brosnan of Commerce's Far East Division.

Worldwide Business Opportunities

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors abroad. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about U.S.-sponsored exhibits abroad, licensing and joint venture proposals, opportunities to sell to foreign enterprises and appoint agents, and details on major construction and expansion projects.

U.S. Promotions Abroad

Shipboard, Port and Marine Equipment Catalog Exhibit. Stockholm. Oct. 3-5. This exhibit will be held in conjunction with the Nordic Shipbuilding Conference and will draw participants from Sweden, Norway, Denmark and Finland. The largest shipyard outside of Japan and some of the world's largest ports are located in Scandinavia. Numerous expansion projects are planned which will offer excellent opportunities. Robert E. Peterson, 202-967-3973.

INDEX 74: Automotive Servicing Equipment, Repair Parts and Accessories Catalog Exhibit. Athens. Oct. 3-9. Car ownership is rapidly becoming a necessity in Greece and demand for quality service and repairs is expanding. In order to meet this demand, large quantities of service and repair parts and accessories will be imported. Call Robert E. Peterson, 202-967-3973.

Health Care Equipment Catalog Exhibit. Buenos Aires. Oct. 7-11. The Argentine Government is currently emphasizing improved health care for the country's over 24 million people and plans an integrated national health system. Expenditures on investments in health care are expected to be $100 million during the 1974-1977 period. Robert E. Peterson, 202-967-3973.

Automotive Servicing and Repair Equipment Catalog Exhibit. Sao Paulo and Belo Horizonte. Oct. 7-15. Motor vehicle production and use is booming in Brazil. Servicing facilities, however, have not kept pace. In order to upgrade facilities, the auto service industry is expected to import $6.9 million worth of equipment by 1978, 70 percent of which should be U.S. products. Call Robert E. Peterson, 202-967-3973.

Pharmaceutical and Cosmetic Manufacturing Equipment and Materials Exhibition. Milan Trade Center. Oct. 8-12. The pharmaceutical and cosmetic industries represent a major sector of the Italian economy as indicated by production figures of over $2 billion in 1973, and are projected to expand at an annual rate of 8.8 percent. U.S. manufacturers of production and packaging equipment and raw materials and substances will find a ready market in Italy. Timed to coincide with the International Chemical Engineering Exhibition (MAC '74) on the adjacent Milan Fairgrounds. Beryl D. Cohen, 202-967-4508.

Plastics Production Equipment Joint Export Establishment Program (JEEP). Taipei Trade Center. Oct. 14-18. Manufactured plastic products rank third among the foreign exchange earnings of Taiwan. Major projects are under way to make the country almost self-sufficient in petrochemicals and plastics. Industry is striving to upgrade standards of product design, quality and production. This event, limited to new to export/new market firms only, combines an exhibition with a technical seminar. Contact Donald L. Schilke at the U.S. Department of Commerce District Office, 1406 Mid Continental Plaza Bldg., 55 E. Monroe St., Chicago, Ill. 60603, or telephone 312-353-5096.

Wood and Wood Related Industries Catalog Exhibit. Oporto, Portugal. Oct. 18-27. This exhibit, to be held in conjunction with the 1st Exposition of Wood and Wood Related Industries, Furniture, Paper and Forestry Products, will encompass all aspects of the wood industry. Call Robert E. Peterson, 202-967-3973.

Computers and EDP Equipment Catalog Exhibit. Zagreb, Yugoslavia. Oct. 21-26. This exhibit will be part of INTERBIRO, the 5th International Exhibition of Data Processing Systems and Office Equipment. The Yugoslav market for computers and EDP equipment is growing rapidly and is expected to reach $45.6 million by 1977. Minicomputers and peripheral equipment are of special interest. Call Robert E. Peterson, 202-967-3973.

Projekt 2000—International Trade Fair on Pollution Control. Graz, Austria. Oct. 23-26. Equipment for control of air and water pollution, noise abatement, sewage treatment, solid waste disposal, and radiation control will be featured in the U.S. pavilion. Trade visitors from the governmental buying units of Eastern Europe concerned with environmental protection will be in heavy attendance. Also available to exhibitors only, on a selective basis, is a trade mission to Switzerland and Yugoslavia immediately prior to this show. Call David Katz, 202-967-3748.

Advanced Educational and Training Aids (JEEP). Tokyo Trade Center. Oct. 24-26. With a population of 109 million people and a school attendance of over 95 percent, improved techniques and equipment for Japan's educational systems are constantly being sought. In addition, Japanese businesses actively try to provide training opportunities for their employees. There is, therefore, an active market for industrial training equipment and new learning techniques. Limited to new-to-market U.S. participants. Call John Wolf, 202-967-4056.

Building Products and Construction Equipment. Stockholm and Paris Trade Centers. Oct. 28-31 and Nov. 5-8, respectively. France, which has the fastest growing economy in Western Europe, and the Scandinavian countries of Sweden, Norway, Denmark, and Finland, offer bright prospects for sale of U.S. products in the building field. Call Andre Williams, 202-967-5373.

Food Processing & Packaging Equipment Technical Sales Seminar. Thailand, Philippines, Malaysia. Nov. 9-26. Improving consumer tastes, expanding population and government backing make the outlook particularly bright for U.S. exports of food processing and packaging machinery to these three markets in the next few years. Equipment imports for improved processing of commodity exports and for domestic foodstuff consumption make technical information efforts in these countries a must for 1974. Call Wyn Coates, 202-967-5286.

Analytical Instruments and Systems for Scientific and Industrial Research. London Trade Center. Nov. 11-15. U.K. imports of analytical instrumentation now make up 40 percent of the $100 million market, and are expected to double by 1977. U.S. sales have increased from $7.6 million in 1971 to $12.7 million in 1973. Demand for new instruments—especially high-technology items—is being spurred at this time by problems of standardization and competition resulting from U.K. entry into the Common Market, by increasing concern with environmental problems, and by development of North Sea oil and gas fields. Products to be exhibited are chromatographic, spectroscopic, and high and low temperature research instruments, accessories and parts. Call Jim Lamont, 202-967-4541.

Apparel Manufacturing Equipment (JEEP). U.S. Trade Center, Mexico City. Nov. 12-14. The garment industry is one of the oldest and largest industries in Mexico. Increased urbanization and rising personal income have led to growth in clothing sales and need for modernization and expansion of clothing manufacturing facilities. Most of Mexico's requirements for apparel manufacturing equipment must be met by imports. This exhibition is limited to new-to-market U.S. participants and is designed to put them in contact with potential representatives who can handle sales on a continuing basis. Call Mary Wiening, 202-967-5037.

Industrial Process Controls and Instrumentation Equipment. Milan Trade Center. Nov. 13-19. High sales potential exists in Italy for process measuring and control instruments and systems for measuring, recording and controlling physical and chemical properties. Will run concurrently with BIAS, the large International automation and instrumentation show, on adjacent fair grounds. Call Sam Spaulding, 202-967-4508.

Audio-Visual Educational Aids Exhibition. Tehran Trade Center. Nov. 17-21. Market research points to a booming market in Iran for audio-visual educational materials during the next several years. The Iranian Fifth Development Plan (1973-77) calls for more than $6 billion to be spent on education. Call Don Ryan, 202-967-4652.

Business Equipment Exhibition. U.S. Trade Center, Taipei. Nov. 18-22. Imports from the U.S. increased 75 percent in 1973 over 1972, reaching a 25 percent share of Taiwan's total imports. Imports of business equipment into Taiwan are expected to be approximately $20 million in 1974, with some $7 million coming from the U.S. While GNP is growing at around 8 percent this year, estimated growth of the business equipment market is 18-25 percent per year for the next three years. Principal equipment in demand includes: electronic equipment, pocket and programmable calculators, mini-computers, accounting machines, photocopying and other duplicating equipment, advanced model cash registers, microfilm equipment, time recorders and other general office equipment such as binding and collating machines, and sophisticated filing systems. Call Monroe Aderhold, 202-967-2051.

Printing Trades Machinery Supplies and Service Trade Mission to Nigeria and Ivory Coast. Dec. 1-13. Nigeria is potentially the largest market in Africa for the printed word and has a growing need for printing equipment and supplies. Ivory Coast imports substantial amounts of equipment. This mission will ex-

pose a number of good sales prospects. Contact Bill Bushwaller, 202-967-4511.

Vacuum and Cryogenic Equipment Technical Sales Seminar to Czechoslovakia, Hungary and Romania. Dec. 1-14. Participants are sought for a 7-member seminar covering industrial, laboratory and medical applications of vacuum and cryogenic technology. Presentation of technical papers will be followed by business meetings with appropriate institutes, foreign trade officials and industrial trusts. Call Fred E. Crosley, Jr., 202-967-5285.

High Performance Production Materials. London Trade Center. Dec. 2-6. The United Kingdom is one of the world's largest buyers of U.S.-manufactured high performance products and use of these materials is expected to grow at a high rate for many years. British manufacturers have expressed special interest in specific new techniques and materials for producing reinforced plastics, high-temperature/high pressure plastics, super alloys, sintered and other powder metal forgings and castings and silicon carbide ceramics. Other products also have high sales potential. Call C. Edward Walls, 202-967-4256.

Home and Office Furnishings (JEEP). Singapore Trade Center. Dec. 4-6. The boom in home and office construction in Singapore and rapidly increasing personal incomes offer an excellent opportunity for U.S. interior decorating firms and manufacturers of high quality household and office furniture, carpeting and other products for interior decorating, to enter the Singapore market. Limited to new-to-market U.S. firms. Call Fred Farmer at the Greensboro, N.C. District Office, 919-275-9111.

Pollution Control Equipment. Stockholm Trade Center. Dec. 9-13. U.S. manufactuers and suppliers of air and water pollution control equipment, solid waste treatment equipment and noise abatement equipment have an outstanding opportunity to introduce new products and improve their share in the expanding Scandinavian market. Recent market research conducted in Denmark, Finland, Norway and Sweden points to continued high demand, especially for sophisticated detection and control equipment. Call Dave Brann, 202-967-4443.

Pollution Control Equipment Catalog Exhibition. Taiwan, Korea, Philippines, Hong Kong. Jan. 13-24. Taiwan's first pollution control legislation, the Water Pollution Prevention Law, was passed in July. An Air Pollution and Waste Disposal Law is expected to be enacted by the end of 1975. Compliance with the two laws will require the purchase by Taiwan industry of several hundred million dollars worth of anti-pollution equipment. Since the mid-sixties, Korea has industrialized at one of the fastest rates in the world, with the consequence that it suffers from the full gamut of environmental despoliation. Korea is spending large sums of money to keep pollution control abreast of industrialization and urbanization. In the Philippines, various aspects of water pollution constitute major areas of market potential. These include the cleanup of the Pasig River, which flows through the heart of Manila, required installation of anti-pollution devices in industrial establishments, a flood control and sewage disposal project and expansion of the potable water supply in Manila. Industrial air pollution has the next priority. The Hong Kong Government has taken several initiatives to improve the quality of the environment: a campaign to keep Hong Kong clean and a study of oil pollution of harbors and of air pollution. American technology and equipment in this field could definitely find a role. Call Robert E. Peterson, 202-967-3973.

Modern Merchandising. Frankfurt Trade Center. Jan. 14-17. The U.S. is one of Germany's leading suppliers of point-of-sales, materials, handling, security, background music, and other equipment for the wholesale and retail trade. Purchases of merchandising equipment are expected to grow rapidly during the next three years, with continued imports from the U.S. Call William Dawson, 202-967-4941.

Avionics and Airport Support Equipment. Milan Trade Center. Jan. 14-18. The Italian aviation industry is commencing an upsurge in development and requires the most advanced and updated forms of equipment. Rough estimates put Italian market potentials for avionics equipment in 1975 at $28-$31 million, while the market for support equipment is virtually unlimited. The Italian Governnment has recently approved the expenditure of $159.5 million over four years for airport support equipment. Call Mara Yachnin, 202-967-2434.

Medical Equipment and Supplies (JEEP). U.S. Regional Trade Center, Singapore. Jan. 15-17. The Government of Singapore has begun a $50 million program for expansion and modernization of health care facilities which will require substantially increased imports of modern medical equipment and supplies for the next five years. It is estimated that the Ministry of Health will spend $8 million for imported medical equipment in 1975 and similar amounts in following years. This event offers U.S. manufacturers the opportunity to establish representation in the Singapore market for long-term sales. Contact Norman Lawson, U.S. Department of Commerce District Office, Room 161, New Customhouse, 19th and Stout Sts., Denver, Colo. 80202, telephone 303-837-3246.

Solid State Semiconductor Components Exhibition. U.S. Trade Center, London. Jan. 20-24. The United Kingdom is one of the world's largest producers of commercial, industrial, and consumer electronic products, and is, therefore, one of the world's largest consumers of electronic components. Britain was also the second largest export dollar earner for U.S. electronic components in Western Europe in 1973 for solid state semiconductor devices, cathode ray color television picture tubes, and passive electronic components. The dollar value of apparent consumption of solid state semiconductor devices is expected to increase in Britain by 27 percent by 1977. Call Robert J. Blake, 202-967-3088.

Scientific & Industrial Instrumentation Catalog Exhibit. Casablanca, Morocco. Jan. 20-24. Heavy capital investments by the Moroccan Government will greatly increase demand for scientific and industrial instrumentation. By 1976, Moroccan imports of instruments are expected to reach $7.1 million, with good prospects for U.S. sales of well over $1 million. Call Robert E. Peterson, 202-967-3973.

Industrial Instrumentation. Mexico City Trade Center. Jan. 20-24. The Mexican market for instruments for use in industrial applications is growing at a rate approximately twice as fast as the economy in general. Opportunities are open to manufacturers of industrial process control, materials test and analytical instrumentation, as only basic instrumentation is produced in Mexico and U.S. equipment is well known and preferred. Call Porter Clary, 202-967-5040.

Agricultural Equipment and Supplies Catalog Exhibit. Cameroon and Malagasy Republic. Jan. 20-31. Agriculture is one of the most important economic sectors in Cameroon and Malagasy and the use of modern agricultural methods is being strongly encouraged by the governments. Modern cultivating, harvesting, spraying and other mechanical equipment as well as chemicals to combat tropical crop diseases and livestock pests are in great demand. For more information call Robert E. Peterson, 202-967-3973.

Printing & Graphic Arts Equipment Exhibition & Seminar. Taipei Trade Center. Jan. 27-31. Prepress, press, bindery, finishing room machinery & related equipment. Limited to 18-20 U.S. firms. The immediate and long-range outlooks in Taiwan are very promising, with growth of local and export markets steadily increasing for printed materials. Taiwan's imports of printing and graphic arts technology, machinery, equipment and related supplies in 1973 was estimated to be $4.6 million. By 1977 it is expected that imports of these materials will reach $7.4 million. Taiwan's recent shift in sourcing policy toward the U.S. also improves prospects for profitable business activity. Call Dave Horridge, 202-967-2798 or 5545.

Automotive Diagnostic and Repair Equipment Exhibition. Tehran Trade Center. Feb. 2-6. The Government of Iran has committed $140 million for expansion and modernization of vehicular production and assembly facilities between 1973 and 1978. As a result, vehicle registration is expected to exceed one million by 1978 (double the 1973 figure). Iran produces none of this equipment and relies entirely on imports. This exhibit will be the first concerted effort to promote U.S. exports in this product category to Iran. Contact Michel Smith, 202-967-4652.

Metalworking Equipment Catalog Show. Seoul and Manila. February. Korea and the Philippines offer a combined market for metalworking equipment of up to $40 million. This is expected to grow with continued improvements in production and repair of transport equipment, expanded minerals production, and new construction and manufacturing activities. Overall growth rates are satisfactory in both countries, with the annual rise in GNP in 1973 above 7 percent. While Korea represents the larger market, both countries are increasing their imports of metalworking equipment. The United States has a market share of 10 percent in Korea and 20 percent in the Philippines, and this product category is considered to be one of the best sales prospects for U.S. exports to both of these countries. Call Robert E. Peterson, 202-967-3973.

Microwave Technology Exhibition. Paris Trade Center. Feb. 3-7. The French market for microwave systems and equipment, circuits, components, test and measuring instrumention is expected to expand sharply in the next few years. Spurred by a need to update outmoded communications systems and to utilize microwave applications for various military and industrial needs, the French are expected to spend over $960 million on microwave products from 1974-1977. Call Eugene Shaw, 202-967-2177.

ACT '75—American Computer Technology 1975—Tokyo Trade Center. Feb 3-8. The Government of Japan has announced that as of Aug. 4 it will automatically approve applications by foreigners for up to 50 percent investment in newly established companies for the manufacture, sale, or leasing of computers and computer-aided systems. By the end of 1975, 100 percent foreign ownership will be allowed, and all quantitative restrictions on importation of computers and related equipment will have been lifted. By 1977 Japan will be importing an estimated $1 billion worth of computers, peripherals, and software annually to augment its $9.7 billion annual consumption of locally-made computer products. Contact Maurice Shea, 202-967-2461.

Power Sources—Energy 75. Milan Trade Center. Feb. 8-12. The energy crisis has redirected attention toward power generation and related equipment. The Italian market for power equipment, both primary and standby, is promising for American producers as they can offer the most advanced products. The outlook for imports from U.S. suppliers looks especially good in the growing nuclear generation field. There is strong interest as well in geothermal and solar power, and other new approaches to power generation. The exhibit will be held in conjunction with INTEL 75-1st International Exhibition of Electrical Engineering. Call Carolyn Allen, 202-967-2434.

Recreational/Leisure Time Goods. U.S. Trade

Center for Scandinavia in Stockholm. Feb. 10-14. U.S. manufacturers of summer and winter sports/recreational equipment, sports apparel, aircraft and aircraft equipment, boats and accessories, and other all-year-round products such as camping and physical fitness equipment now have an excellent opportunity to exhibit their latest products at "Leisure Time/U.S.A." Scandinavians now have a shorter workweek, longer vacations and more money to spend on recreational products. Household income in Sweden in 1974 is expected to rise well over 15 percent which, allowing for consumer price increases, will represent a 5.3 percent rise in real disposable income. Call William Beiring, 202-967-3276.

Automotive Diagnostic and Repair Equipment. Offsite Trade Center Show, Beirut. Feb. 10-14. Up to 15 U.S. firms will have the unusual opportunity to participate in this event in tandem with a similar Trade Center show in Tehran Feb. 2-6. The site is the Industry Institute in Beirut. As a hub of commercial and financial activity in the Middle East, regularly attracting business visitors from throughout the region, Beirut is a logical site for an exhibition designed to capitalize on the rapidly expanding market potential in such target markets as Saudi Arabia, Kuwait, the United Arab Emirates and other Gulf states, in addition to Lebanon. Contact Michel Smith, 202-967-4652.

Plastic Production Equipment. Mexico City Trade Center. Feb. 10-14. With an increase in purchases of plastics production equipment on the order of 40 percent annually over the last several years, Mexico's market for U.S. equipment in this category is excellent. Now a producer of petrochemicals, Mexico aims at future self-sufficiency in plastics feedstocks, so expansion in the industry continues. Call Peter Clary, 202-967-5040.

Materials Test Instrumentation and Equipment. Frankfurt Trade Center. Feb. 11-14. An increase in both public and private research and development activity combined with more exacting specifications imposed by industrial customers has greatly strengthened the German market for materials test instrumentation and equipment. Imports of selected testing instruments are likely to reach $68 million in 1974 of which the U.S. share is expected to be 28 percent. Call Don Schmadel, 202-967-2177.

Industrial Instruments. Sydney Trade Center. Feb. 17-21. The U.S. share of the Australian import market for industrial instruments is estimated at about $40 million. Most significantly, the potential for U.S. industrial instruments has improved greatly as a result of recent price advantages gained through monetary revaluations and Australian tariff cuts. Because of this new-found price competitiveness, it is expected that the U.S. market share could increase as much as 20 percent. Contact Fred Groh, 202-967-3646.

Timber Industries Equipment Trade Mission to Ivory Coast, Cameroon and Gabon. Feb. 23-March 7. Strong world demand and favorable world prices for forest products emphasize the desirability of sending this mission to these heavily forested countries. Products featured will include logging and felling equipment, log and lumber transport equipment, sawmill and woodworking machinery, and machinery for manufacturing plywood, veneer, particle board, pulp and paper. Call Edward J. Wason, 202-967-4918.

Automated Business Equipment and Systems Exhibition. U.S. Trade Center, London. Feb. 24-28. The United Kingdom imported $65.9 million worth of U.S. automated business equipment and accessories in 1973. Of 16 equipment categories, the United Kingdom was the largest import dollar earner in Western Europe for nine of them, second largest for six, and third largest for one. In an effort to increase the U.S. market share of automated business equipment that can be utilized by both users and non-users of ADP systems, Commerce will present this major commercial promotion and exhibition of latest developments in the state-of-the-art of U.S. automated business technology. Electronic calculators, copying machines, word processing typewriters and systems, in-house offset printing equipment and many more categories are being sought. Contact Ron McCowen, 202-967-4462.

Process Control Instrumentation Exhibition. U.S. Regional Trade Center, Singapore. Feb. 24-28. High sales potential exists in Singapore for established distributors, agents and representatives of U.S. manufacturers of process measuring and control instruments and systems for measuring, recording and controlling physical and chemical properties. Control and regulator vales, servo mechanisms, process control computers and related products also rank high. Fastest expanding sales opportunities are foreseen in the chemical industry in electric/electronic instrumentation. To participate in this locally-procured event, ask your Singapore representative to contact the Director of the U.S. Regional Trade Center, 1st Floor Yen San Bldg., 268 Orchard Rd., Singapore 9. (Tel. 373-100).

Pulp, Papermaking and Converting Equipment Exhibition. U.S. Trade Center, Paris. March 3-7. With the demand for paper skyrocketing, local manufacturers fall far short of meeting equipment needs. Furthermore, strict pollution control regulations and the ongoing modernization trend are resulting in demand for the most sophisticated process control and pollution control equipment and instrumentation. There is also much interest in waste paper processes. Call Robert B. Wallace, 202-967-3748.

Pharmaceutical Production Equipment Exhibition. Mexico City Trade Center. March 3-7. Strongly expanding Mexican Government medical care programs as well as stricter controls in production and higher quality required from local laboratories offer good opportunities to U.S. suppliers of a wide range of machinery, equipment and instrumentation used in production of pharmaceuticals. The U.S. share of total imports is about 70 percent and a majority of local needs must be imported. Call Mary R. Wiening, 202-967-5037.

"PRINT-PACK USA"—International Printing and Packaging Exhibition. Sao Paulo. March 3-9. The Brazilian market for printing and graphic arts equipment is $52 million and growing 13 percent a year, and the market for packaging machinery is $28 million and growing 27 percent, offering hot sales opportunities. Combined imports hit $63 million last year and the U.S. holds a major share (37 percent in printing, 25 percent in packaging) which should go higher in the next 3 years. Opportunities are especially good for form-fill-seal, shrink wrapping, thermoformers, vacuum and gas packaging, can-making, cartoning, can-packing, bottle-filling, case filling and sealing, bag top labeling and code marking equipment. Web-offset and flexographic presses have excellent potential, as do phototypesetting, editing and automated photocomposition equipment. Contact Pete Field, 202-967-3871.

Electronic Data Processing and Related Equipment. U.S. Trade Center for Scandinavia in Stockholm. March 10-14. "EDP-V" is a major exhibition designed to provide American manufacturers of computers and related equipment with an excellent springboard from which to penetrate the dynamic Scandinavian market or expand their market share there. Current prospects are particularly favorable, as strong EDP sales continue to be fueled by increasing private sector realization of new profit-oriented computer applications and by increasing flexibility in leasing and other approaches to the issue of computer availability. Current projections indicate that the Swedish market alone will spend almost $1 billion on EDP equipment in the 1973-77 period. Imports are expected to continue to account for most sales, with U.S. firms and their European subsidiaries providing over 75 percent of all products. Call Jim Lamont, 202-967-4543.

General Industrial Equipment and Instrumentation Solo Exhibition. Bogota. March 10-15. This first U.S. Solo Exhibition in Colombia will provide a unique sales opportunity to U.S. manufacturers to promote their products in this important South American market. Operating from four major industrial centers which form a broad manufacturing base for such sectors as steel, chemicals and petrochemicals, food and beverages, rubber, pulp and paper, automotive, textile and non-metallic minerals, Colombian industrialists have greatly expanded and diversified non-traditional exports within the Andean Common Market and throughout the world, reaching $2.5 billion in exports in 1973 and doubling their total foreign trade in less than ten years. U.S.-based manufacturers of analytical instrumentation for better quality control, general materials handling equipment and systems, and equipment for the greatly expanding printing and graphic arts and textile industries will be joined by local agents of U.S. general industrial lines already being marketed in Colombia. Call Richard F. Muenzer, 202-967-2329.

U.S. Exhibition, Cairo International Fair. March 10-31. The American Embassy is sponsoring a U.S. Exhibition at the Cairo International Fair featuring a variety of products and services aimed at the Egyptian market. Apply directly to Roger Merrick, Commercial Section, American Embassy, 5 Sharia Latin America, Cairo. Limited background information is available from: Robert Vigneault, 202-967-4304, or Laron Jensen, 202-967-4047.

Industrial Assembly Equipment. Milan Trade Center. March 11-15. Vastly increasing labor costs are providing Italian manufacturers with the incentive to use more advanced types of assembly equipment. In addition, Italian industry, in its attempt to remain competitive with its EEC partners, the United States and Japan, is being forced to rationalize its production processes. Since Italian manufacturers produce mainly conventional types of industrial assembly equipment, the projected strong demand for high productivity machines, products and tools incorporating latest developments and know-how will be met by imports. Contact John Priamou, 202-967-2434.

Hotel and Restaurant Equipment Exhibition. March 14-18. This major promotion will be held concurrently with the 1975 Tokyo International Hotel and Restaurant Show and will attract key buyers and decision makers from all over Japan. The Japanese market for hotel and restaurant equipment in 1973 was about $3.9 billion and growing at an average annual rate of 20 percent. Imports comprised over $56 million in 1973 and are expected to rise at an average annual rate of 20 percent over the next three years. U.S. products accounted for roughly 34 percent of imports in 1973. Best sales prospects include administrative services equipment, building mechanics equipment, commercial food and services equipment, and cleaning, maintenance and sanitation equipment. Call John L. Wolf, 202-967-4056.

TAPEX '75—Antipollution Exhibition, 5th International Session. Tokyo. March 14-19. The extent to which the Japanese Government and private industry are committed to solving the nation's pollution problems is best reflected by the estimated $5.6 billion to be spent by the Japanese in this field during 1974. This expenditure represents more than 9 percent of total private plant investment in Japan. With Japan's pollution laws the most stringent in the world and its requirements increasing rapidly, U.S. suppliers, who now provide 70 percent of Japanese imports of pollution control equipment, materials and systems can expect excellent sales opportunities over the next three years. Call Ray Alvarez, 202-967-2461.

U.S. Book Fair. Sydney Trade Center. March 17-21. Australian imports of books and pam-

Sales opportunities in 11 U.S. commercial exhibitions, 10 catalog exhibitions, 40 shows at U.S. Trade Centers, 2 trade missions and 2 technical sales seminars are being offered to present and potential U.S. exporters between now and May.

Each Trade Center exhibition is limited to one particular line of products and centers are located in Beirut, Buenos Aires, Frankfurt, London, Mexico City, Milan, Paris, Seoul, Singapore, Stockholm, Sydney, Taipei, Tehran, and Tokyo. For further information on the Trade Center shows described or for more facts on U.S. exhibitions, **write:** *Director, Office of International Marketing, Room 4015, U.S. Department of Commerce, Washington, D.C. 20230.*

U.S. specialized trade missions and technical seminars are comprised of groups of U.S. businessmen organized by the U.S. Department of Commerce to travel abroad to promote the export of U.S. goods and services produced by their particular industry. **Write:** *Trade Missions, Room 4219, U.S. Department of Commerce, Washington, D.C. 20230.*

phlets is approximately $85 million, with annual growth of 10 percent. The U.S. provides about one-third of these imports. American products have been competitive recently with revaluation of the Australian dollar. In addition, recent breakthroughs in the restrictive markets agreement allow greater freedom and openness in Australia, especially with respect to textbooks, library/reference books, do-it-yourself books, technical journals, and all types of paperbacks. Contact Fred Groh, 202-967-3646.

Apparel Manufacturing Equipment Exhibition. Frankfurt Trade Center. March 18-21. Inflationary factors and labor scarcity are inducing apparel manufacturers to streamline operations to reduce overhead and maintain competitive prices and output. Sales potential is high for most types of automated, labor saving or cost cutting production equipment and specialties. With easing of bank credits and interest rates, and elimination of investment taxes on capital goods, apparel makers are in position to purchase. Equipment sales are steadily climbing. An annual increase of 6.25 percent is projected through 1977 in Germany. Call Charles Whitley, 202-967-5381

Pumps and Compressors Specialized Exhibition. Moscow. April 1-10. Offers an excellent opportunity to expose products to the most important buyers in the growing Soviet market area. The USSR continues to expand many areas of industry. The new five-year plan includes expansion of present and construction of new enterprises throughout the country. Implementation of these plans requires acquisition of a large volume of the most up-to-date pumps, compressors, and related items. Soviet domestic production is capable of supplying only a part of the total demand for this equipment. The Soviet economy must, therefore, rely on imports to a large extent. Call Oleg Jerschkowsky, 202-967-3376.

The International Motor Show. Barcelona. April 12-22. Commerce will sponsor a U.S. pavilion at Spain's leading annual event for the automotive industry. This "gateway to the Spanish auto market" offers U.S. manufacturers of auto service and repair equipment and supplies an excellent opportunity to display and sell their products. Plans have been established by Spanish auto manufacturers to spend $1.1 billion by 1977 for new and improved production facilities. With the subsequent increase in the motor vehicle population, there will be a tremendously increased demand for new and improved service and repair equipment. Call William S. Gaines, 202-967-3957.

Laser and Electro-Optic Technology Exhibition. U.S. Trade Center, Paris. April 14-18. Recent market research shows a splendid opportunity for U.S. manufacturers and suppliers to gain increased sales in the flourishing French market. A laser exhibition in 1969 resulted in over $3 million in sales during the show and the following year. Since then, scientific and industrial need has grown rapidly. During 1975-1977, French industry and scientific organizations are expected to spend $39 million on lasers. Imports are expected to constitute the greater share of this market. Contact Chuck Whitley, 202-967-5381.

Advanced Medical Equipment Exhibition. U.S. Trade Center, Mexico City. April 21-25. The Mexican market for medical equipment is growing at twice the rate of the economy in general, and U.S. equipment is favored in most categories. Two previous similar exhibitions at the U.S. Trade Center have been extremely successful. Call Mary Weining, 202-967-5037.

Pollution Control Equipment. Frankfurt Trade Center. April 22-25. American manufacturers and suppliers of equipment for the control of air and water pollution, noise abatement, sewage treatment and solid waste disposal have an excellent opportunity to display and sell their products in the lucrative German market. In 1974 and 1975, the Federal Republic's annual investment in pollution abatement is anticipated to amount to about $2.6 billion and $3.1 billion, respectively. Call Bill Dawson, 202-967-4941.

U.S. Exhibition, Casablanca International Fair. April 24-May 11. A U.S. exhibition sponsored by the American Embassy will feature a variety of products and services aimed at the Moroccan market. Apply directly to: Joseph Fisher, Commercial Section, American Consulate General, B.P. 675, No. 8, Bd. Moulay Youssef, Casablanca. Limited background information is available from Robert Vigneault, 202-967-4304, or Laron Jensen, 202-967-4047.

Printing and Graphic Arts Equipment. U.S. Trade Center, Sydney. May 5-7 and 14-16. U.S. exports to Australia have been increasing at a rate 70 percent above last year due to a booming economy, revalution of the Australian dollar and the currencies of other major exporters to Australia, reduction in Australian tariffs, a high rate of inflation, and shortages for many types of products. The market for printing equipment in Australia is about $40 million this year, 80 percent of which is imported mainly from Germany, the United Kingdom, and the United States. The U.S. share of this market has fluctuated at between 20 and 30 percent and could be expanded. Purchases of this equipment tend to increase at a rate of 8 percent per annum. Contact Fred Groh, 202-967-3646.

U.S. Exhibition, Tunis International Fair. May 16-June 1. A U.S. exhibition sponsored by the American Embassy will feature a variety of products and services aimed at the Tunisian market. Apply directly to: Alan Logan, Commercial Section, American Embassy, 144 Ave. de la Liberte. Tunis. Limited background information is available from: Robert Vigneault, 202-967-4304, or Laron Jensen, 202-967-4047.

U.S. Advanced Business Equipment Exhibition, Budapest International Spring Fair. May 21-29. Hungarian officials have expressed high interest in advanced business equipment geared to mechanize and modernize office systems and administrative procedures. Principal equipment in demand includes: electronic calculators, accounting machines, microfilm systems, advanced model cash registers, copy and duplicating equipment, and other general office equipment such as collecting and laminating machines and sophisticated filing systems. Call Kenneth McKenna, 202-967-5186.

U.S. Pavilion, Paris Air Show, Le Bourget Airport. May 30-June 8. The export market is the brightest spot in the U.S. aerospace industry this year. In 1973 U.S. aerospace exports reached an all-time high of $5.2 billion, 27 percent of production. During the period 1968-1973, over 46 percent ($8.2 billion) of total U.S. exports ($17.7 billion) of civilian and military aircraft, engines and parts were shipped to Western Europe. Sales prospects for 1975 are particularly good for general aviation aircraft, helicopters, military aircraft for the NATO air forces, avionics and airborne instrumentation, aircraft engines and parts, airport and ground support equipment (with special attention on security equipment), and components. Increasingly fierce European competition makes it more necessary than ever for U.S. aerospace companies to see and to be seen at the 1975 Paris Air Show, not only to increase sales, but to maintain our traditionally high export market share. Call Michael G. Hanpeter, 202-967-4961.

Greece To Host Exhibition On Tourism, Hotel Equipment

The "XENIA" exhibition, an international event which will bring together enterprises that make up the hotel industry, will take place in Athens in early November (the exact date has not yet been set). In addition to hotel equipment, the exhibition will also include equipment needs of hospitals, clinics, schools, restaurants and ships. As floor-space is somewhat limited—5,000 square meters—exhibitors are advised to make reservations as soon as possible. The floor-plan is available on request. Stands of varying dimensions between 12 and 50 square meters are available. For reservations and information contact: The Greek Organization for Technological Exhibitions, 5 Kodrou St., Athens 119. Telephone 3230324-3226678.

Projects Will Be Promoted At Food Processing Meeting

A number of projects will be presented at the food processing meeting sponsored by the United Nations Industrial Development Organization (UNIDO) and the Food and Agriculture Organization (FAO) this fall (see *Commerce Today*, May 27, page 36). The meeting will be held Oct. 21-25 in Amsterdam. Additional information about the meeting and background on projects to be considered are available through A. J. Aizenstat, Director, UNIDO New York Liaison Office, United Nations, Room 2766, New York, N.Y. 10017, telephone (212) PL 4-1234.

Poland Wants Equipment, Technology To Make Chains

BIPROTECH, Poland's Technical Design Office for the Agricultural Machinery Industry, wishes to establish contact with U.S. firms interested in supplying technology and equipment for a complete plant to manufacture eight types of transmission roller chains from five-eighths inch to two-inch width and two types of pin chain. Plant production by 1980 should reach 9,200 metric tons annually.

Interested companies can obtain further information and specifications from D. Piggot, Trade Development Assistance Division, Bureau of East-West Trade, Room 4816, U.S. Department of Commerce, Washington, D.C. 20230, telephone 202-967-3352.

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Foreign Investment Services Staff, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to any of the specific proposals listed.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230, or from any Commerce District Office.

OPIC indicates that the country involved is eligible for investment insurance coverage and financing from the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

2600—SWITZERLAND—Seeks license or similar agreement to manufacture **new materials in the field of special paper and board.** Products of interest are coated, laminated and impregnated paper for industrial and commercial purposes, vulcanized fiber materials and glass fiber reinforced papers. Applications would include sealing, insulating, packaging, and the manufacture of such products as shipping containers and luggage. Presently the Swiss company produces scratch proof decorative board. It is a member of a large industrial holding company. Mr. Gattiker, Director, Aerofiber AG, Knonauerstr. 8, 6330 Cham, Switzerland. P-74508.

2621—ARGENTINA—U.S. firms in association with local companies are invited to submit bids for the **design, construction and operation of two newsprint plants,** annual production capacity of 320 metric tons each. The Government of Argentina is seeking equity participation by a U.S. investor in an amount up to 49 percent of total capitalization. Preference will be given to proposals using raw materials originating in the geographical area in which facilities are established. Plants should be in operation during 1977 or 30 months after date bid is awarded. Deadline for submission of bids is Nov. 29. Specifications available free of charge from the Secretaria De Estado De Desarrollo Industrial, Av. Julio A. Roca 651, Buenos Aires, Argentina, by asking for Licitacion Publica No. 4/74. Further details can be obtained from the Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74506.

2842, 2844—YUGOSLAVIA—Yugoslav Association of Soap and Cosmetic Manufacturers on behalf of its members seeks licensing contracts for manufacture of **soaps, detergents, toothpastes, deodorants, etc.** The 23 manufacturing enterprises comprising the Association produced 26.8 and 133.4 thousand tons of soap and soap powders and detergents respectively in 1972. Reimbursements would be in form of royalties and purchases of raw materials. Milos Zubac, Director, Yugoslav Association of Soap and Cosmetic Manufacturers, Toplicin Venac 3, P.O. Box 434, 11000 Beograd, Jugoslavija. P-74501. OPIC.

2844, 3842—TURKEY—Seeks technical assistance through licensing arrangement for manufacture of **cotton products,** such as absorbent sterilized cotton for general purposes, cosmetics, or types used in insulation, etc. Presently supplies raw cotton to producers of cotton thread and participates in a cotton gin and oil manufacturing facility. Also engaged in distribution of pharmaceuticals and housing contracts. Contact: EPO (Etud, Egitim, Pazarlama Organizasyon Hizmetleri A.S.), Istiklal Caddesi, Anadolu Han 201/7, P.O. Box 593, Beyoglu, Istanbul, Turkey. P-74510. OPIC.

2850—GERMANY—Seeks licenses for production of **consumer aerosol paints, specialty aerosol paints and coatings and related products,** in particular for do-it-yourself. Firm is one of the largest European aerosol producers for automobile sprays, maintenance products and repair accessories and synthetic lacquer sprays. Maintains branch plant in Switzerland and has sales outlets and distributors throughout Europe. Employs 320 and has annual sales of DM 30 million. Kurt Vogelsang GmbH, 6954 Hassmersheim, West Germany. P-74493.

2865, 2869—INDIA — Firm seeks licensing arrangement with a U.S. collaborator willing to supply technical and process know-how for manufacture of **polymers, homopolymers and copolymers.** Also desires to purchase equipment (primarily multipurpose reactors for polymerization of monomers, such as vinyl acetate, styrene, methyl, ethyl, butyl, 2-ethyl hexyl acrylates). Annual production of 3,000 tons of polymers, homopolymers and copolymers is projected. Estimated cost is $2 million. For additional information write Foreign Investment Services, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74512. OPIC.

3079—UNITED KINGDOM—Seeks licensing arrangements to produce **childproof bottle caps** either threaded (for preference) or unthreaded. Caps must meet existing FDA requirements relating to childproof opening devices. Established in 1912, firm has 100 employees and 4 salesmen. Annual pounds sterling sales volume in six figure bracket. D. Hemmings, Sales Director, Hemmings Plastics Ltd., Holt Lame Netherleg Liverpool L27 2YB, England. P-74502.

3297—INDIA—State-owned corporation seeks American technology to manufacture **ceramic capacitors.** Firm envisages annual production of 20 million professional grade and general purpose ceramic capacitors. Plant will be located in Nagpur, 520 miles west of Bombay. Raw materials, skilled labor, water and power supply are available at the proposed site. Although foreign participation in ceramic capacitor industry is banned, the India firm has reached an agreement with the Government of India that a foreign company will be permitted collaboration provided that 40 to 50 percent of proposed production is exported. Firm is planning expansion of its projected annual capacity to 60-70 million units. Indian firm desires an American partner to provide technical know-how and export marketing assistance. For additional information write Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74511. WTDR. OPIC.

3324—JAPAN — Seeks exclusive licensing agreement for production and sale of **investment castings** in Japan. Interested in introducing latest investment casting process for ferrous alloys from U.S. Will purchase necessary investment casting equipment from licensor. Firm presently manufacturer of corrosion-proof and heat insulating ferrous alloy castings. Founded 1934, now capitalized at $143,000. Operates head office in Osaka; two branches in Tokyo and Mizushima; and one plant in Osaka with a total of 250 employees. 1973 annual sales over $7 million, marking annual average growth rate of 30 percent over past 5 years. Korejiro Horiuchi, President, Sanwa Tokushu Seiko, Ltd., 14 San-no-tsubo, Kuise, Amagasaki City, Hyogo Prefecture 660, Japan. Cable: SANWA AMAGASAKI. P-74503.

3433—INDIA—Seeks license to produce specialized **waste heat boilers,** to be used in fertilizer plants utilizing fuel oil as feed stock and employing shell gasification process. Company, established by Government of India, manufactures custom built process equipment and air and gas separation machinery for chemical plants. Indian Investment Centre, 708 Third Ave., New York, N.Y. 10017. P-74504. OPIC.

3559—GERMANY—Seeks license to produce **sandblasting machines, parts and attachments.** Comet GmbH & CoKG, 4 Duesseldorf, Lindenstr. 169, Germany. P-74505.

3559—JAPAN—Seeks licensing agreement for manufacture of **water treatment systems for recirculating and discharge.** Also interested in production of **activated carbon filters for such systems.** Robert C. Ferber, Ferber Co., Management Consulting, Inc., 30 East 42nd St., New York, N.Y. 10017. 212-682-2055. P-74509.

3569—FRANCE—Seeks license to manufacture **packaging machinery for producing plastic tubes and flasks.** Present firm makes injection presses and filling and welding machines; employs 90 and enjoys a good commercial reputation. Jean-Louis Bourguard, Commercial Director, COTUPLAS, Zone Industrielle, 51800 Sainte Menehould, France. WTDR. P-74491.

3569—SWITZERLAND — Seeks license for manufacture of **equipment in the field of industrial water, water purification and softening and waste water treatment.** Products of particular interest include **reverse osmosis equipment, the membrane to be imported from licensor; ultrafiltration devices; ultraviolet radiation water disinfecting systems; industrial water softening equipment; and clarifiers for sludge reactivating.** Firm presently produces and markets special advanced water treatment equipment, mainly for industrial and community applications. Has young and competent management. Siegfried Mangold, President, Mangold AG, P.O. Box 273, 4010 Basel, Switzerland. P-74494.

3585—JAPAN—Major manufacturer of diversified rubber and plastic products seeks technical know-how in the construction of **cold-storage warehouses.** Company presently produces 5,000 tons of heat-insulating rigid polyurethane foam panels a year. Wishes to manufacture non-heat insulating roofing and siding panels incorporating its polyurethane foam panels and to construct cold-storage warehouses as part of diversification of its business lines. Company has 8 branches and 5 plants in Japan. Capitalized at $13.9 million, employs over 3,000 employees. 1973 annual sales $286 million. Satoshi Kobashi, Director of the President's Office, Toyo Rubber Industry Co., 5 Edobori Kamidori 2-chome Nishi ku Osaka 550, Japan. Cable: OLYMP OSAKA, Telex: 2422154 Toyo J. P-74497.

3589—GERMANY—Seeks license to manufacture **floor cleaning and grinding machines equipped with grinding stones, milling tools and brushes for cleaning plant floors.** Would

include water tank for use in applications utilizing nylon brushes or wet grinding on concrete. Also wants to produce **industrial vacuum cleaners** for use in steel mills and metal processing facilities. Ewald Schuette, Spezial-Baumashinen, 4 Duesseldorf, Lindenstr. 210, Germany. P-74496.

3613—UNITED KINGDOM — Facilities of manufacturer of **fuse switchgear, transduct bus bar trunking systems and medium range substation units** available for sale or lease. Firm's output Electricity Board specifications. Located outside of Liverpool near the airport, concern's inventory includes tooling, designs, component stocks and standard switchgear units. Company has supplied sub-station units to Electricity Board for over 30 years. The Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74495.

3692—SAUDI ARABIA—Seeks joint venture with U.S. firm for supply of equipment, technical know-how and trademark in establishment of a **dry cell manufacturing plant.** Estimated annual volume of imports said to be in range of 50 million units. No local production and potential markets in neighboring countries. Firm principally engaged at present in providing engineering services to oil companies and other industries. Equity arrangement negotiable. Maj. Gen. Hashim Said Hashim, Owner, Trading and Industrial Group, P.O. Box 2500, Osman Bin Affan St., Jidda, Saudi Arabia. P-74490.

3841—SWITZERLAND — Medium-sized firm seeks license or sub-contracting arrangement to produce **medical equipment of a mechanical nature.** Would also consider **electronic products.** Presently manufactures timepieces, assembles precision parts and engages in nickle plating, polishing, stamping, and welding. Has 80 employees and reports annual sales of $3 million. Marcel Mussard, Engineering Consultant, Goultes D'or 68; after September write Avenue Premier Mars 6, 2000 Neuchatel, Switzerland. P-74507.

5411—MEXICO—A U.S. joint venture partner is sought to establish **five small neighborhood self-service supermarkets** in Mexico City. Sponsor of the project owns a nine-story building consisting of a self-service supermarket which he operates, 28 residential apartments and two commercial enterprises. In return for financial participation and know-how, U.S. firm would receive 49 percent equity in the enterprise. Victor Diaz de Leon, Servi-Mercados S.A., Insurgentes Norte 476, Mexico City 4, D. F. Mexico. P-74498.

7011—BOLIVIA—A group is interested in building a **first-class, 125-room hotel** on its 60,361 square meter property, which includes 19 tennis courts, large modern club house and outdoor heated swimming pool located in attractive residential area. Group is seeking major U.S. hotel company to participate in preparation of feasibility study for the hotel. If results are favorable, the U.S. company will be asked for equity participation combined with management contract. Mario Soliz, Club de Tennis La Paz, Casilla 790, La Paz, Bolivia: cable: SOMCO Para Tennis La Paz, Telex: SOMCO 3560051 (via ITT) or SOMCO BX-5223 (via RCA). P-74513. OPIC.

Indian Firm Seeks Agreements

Shriram Refrigeration, a member of a major Indian conglomerate, seeks joint ventures and licenses to manufacture 11 new products. Its' interests include the production of lined cartons, mica products, roller and ball bearings, sintered products, thin walled bimetal bearings and bicycle components. The firm also wants to make carbon black, dye stuffs, chemicals from castor oil, pesticides and mylar film. Presently, the Indian company produces hermetically sealed compressors, relays, diesel engines and electric motors. It employs over 600. The parent company is engaged in a wide range of activities and annual sales are estimated at $250 million. P. K. Datta, Project Officer, Shriram Refrigeration Industries Ltd., 115 Sarojini Devi Rd., Secunderabad 500003, India. WTDR. P-74500. OPIC. U.S. firms responding to this opportunity are requested to send a copy of their correspondence to American Consulate, Mount Rd., Madras, India 60006.

Romanians Propose Industrial Cooperation With U.S. Companies

During a recent meeting of the U.S.-Romanian Joint Economic Commission in Bucharest, the Romanians provided the U.S. representatives with detailed information on two major areas in which they wished to explore research, production, and marketing cooperation with U.S. organizations.

The first, consisting of specific activities in which they would like to undertake joint applied research efforts with U.S. companies, includes development of a manufacturing technique for utilizing lasers in fireproof material processing; joint experimentation leading to methods and equipment to obtain mechanical parts (gears, groove axes and other shaped parts) by plastic cold working, without cutting; development of a method for increasing oil deposit recovery; and joint efforts to improve the equipment developed by Romania for the continuous observation of furnace refractory liner wear by nuclear radiation looking toward the utilization of such equipment in U.S. ferrous metallurgy plants.

The information provided by the Romanians includes the organization that would handle the Romanian side of the joint efforts and notations which expand somewhat on what the Romanians are interested in and on what they are prepared to contribute.

The second, much larger, lists industrial processes and equipment which the Romanians have developed and on which they have patents. The Romanians would like to explore the possibility of having U.S. firms cooperate with them to better utilize these processes and equipment. This category also includes products for which the Romanians would like to have joint production and joint marketing. The Romanians are providing the name of the responsible Romanian organization that would be interested in initiating discussions on each item as well as comments on what type of cooperation the Romanians have in mind and on the current status of production and development.

Among the Romanian patented products and technology listed are: a method for producing high-pressure tanks for the chemical industry by a "multilayer" technique; a method and equipment for raw aniline purification; a method for obtaining activated aluminum oxide; a high-input impedance transistor amplifier; a method and reactor for destructive oil hydrogenation; soft palate removing apparatus; and a machine for toroidal surface processing. Areas where production and marketing cooperation is desired include gas chromatographers; amino acid analyzers; mass spectrometers; and radiometric equipment for geophysical prospecting.

The complete list of Romanian interests in both categories can be obtained from the Trade Development Assistance Division, Bureau of East-West Trade, U.S. Department of Commerce, Washington, D.C. 20230, telephone 202-967-2835. The Bureau can also assist interested companies in making contact with appropriate Romanian organizations.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the U.S. under a licensing agreement or in partnership, write the Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-967-2248), referring to the appropriate file number.

GERMANY — A German manufacturer is seeking a U.S. licensee for its **hydraulic filling machines** for very viscous pastes. **File 2612**

JAPAN—A manufacturer of **baby diapers** may be interested in having a joint venture partner in the U.S. for production of its diapers made from a patented fabric. **File 2613**

JAPAN—A diversified manufacturer is interested in a joint venture partner in the U.S. for growing improved corn (the company has the seed) to be processed into special quality **corn starch** used in adhesives, in sizing for textiles, and as food additives. **File 2614**

JAPAN—A manufacturer of various types of steel bearings is interested in a joint venture partner in the U.S. for assembly and sale of 300,000 to 500,000 single row radial **bearing wheels** a month. The Japanese partner will provide machinery and technology. **File 2615**

JAPAN—A producer of over 40 kinds of petrochemicals primarily for use of intermediate industrial manufacturers is interested in a joint venture with a U.S. partner for the production of a special kind of **petrochemical polymer. File 2616**

SWEDEN—A manufacturer is seeking a U.S. firm to manufacture and distribute under license its **steam boilers, waste heat boilers and oil heaters,** which the manufacturer claims are superior to those being produced now in the U.S. **File 2617**

SWITZERLAND — A manufacturer is interested in a licensing or joint venture arrangement in the U.S. possibly with a medium size U.S. manufacturer of paper or paperboard. The company offers its line of novel scratch-proof **decorative board** used in decorating kitchen cabinets and doors, and its new materials used in the field of special paper and paperboard. **File 2618**

SWITZERLAND—An engineering company is offering its **electronic non-contact level control device** to control the amount of liquid placed in containers. This device, which had its start in the cosmetics industry, is equipped with a control mechanism to sort out along the packaging (filling) line bottles which have been filled over or under desired level. **File 2619**

Seminar On Foreign Ventures Planned For Los Angeles

A seminar — *Foreign Ventures Development and Operation*—is planned in Los Angeles Oct. 2-4. This first institute on international licensing and joint venture opportunities, sponsored by the American Bulletin of International Licensing, is designed to focus on key business planning areas which form the foundation of international business projects. Topics to be covered include: structuring a foreign operation; product evaluation and planning; international investment risks limitation; international business negotiation simulation; selection and assignment of foreign operation personnel; and operating on a multi-national basis.

Details and registration forms are available from S. Richard Snodey, Institute Director, American Bulletin of International Licensing and Joint Venture Opportunities, 3345 Wilshire Blvd., Suite 1111, Los Angeles, Calif. 90010, telephone 213-670-9151, Ext. 3266.

Foreign Trade Inquiries

These trade opportunities are based on reports received from the U.S. Foreign Service by the Trade Opportunities Division, Room 1322, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1972 Census of Manufactures.

U.S. firms should be aware that the listing in Commerce Today *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

The mark (•) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

Building construction

• **15100 — LIBERIA** — The Government of Liberia invites building contractors in member countries of the World Bank to prequalify for invitations to tender for construction of schools and related facilities at four locations in Liberia. These projects are: 1) additions and alterations to existing teachers training institute buildings, and construction of a new demonstration school, dormitories and staff housing in Kakata—total area, about 42,000 sq. ft.; 2) construct new multilaterial high school, dormitories and staff housing in Voinjama—total area, about 65,800 sq. ft.; and 3) construct new college of agriculture and forestry of the University of Liberia, together with dormitories and staff housing at the new campus in Fendell—total area, about 75,900 sq. ft. Applications for prequalification must be submitted on forms obtained from Project Director, Liberia/World Bank Education Project, Project Implementation Unit, Ministry of Education, 4th Floor, Room 408, Broad St., Monrovia, Liberia. Prequalification applications must be postmarked no later than Oct. 11. Tenders may be invited for individual projects as well as for package bids. Construction is expected to commence July 1, 1975, and be completed within 13 months.

Paperboard mills, products

2631264—YUGOSLAVIA—Cardboard in rolls & sheets for mfg. waxed cold drink cups. Volume 350 to 400 tons annually. Specifications: weight—195 grams per sq. meter; thickness — 0.0229 millimeters; format — rolls 633.677 mm. wide for body of cups; sheets—100 x 700 mm., or rolls: 80 x 100 mm. wide for cup bottoms. Shipments of 80 ton lots desired. Firm is purchasing cardboard for Grafotehna, mfr. of waxed paper cups in Zagreb. Grafotehna desires earliest deliveries as supplies critically low. Reply by telex: 21-129 & 21-266—Ms. Savka Bursac, Commercial Chief, Kemikalija Export-Import, Savska Cesta 62, 41000 Zagreb. Cable Kemikalija Zagreb, tel: 041/21-129.

Glass, glassware

3229321—BRAZIL—Fiberglass yarns, wovenrovings, fabrics, cont. mats, tapes, etc., with finish mainly of polyester & epoxy resins. Reply to—Pierre Leon Bouquerel, Dir.-Pres., Emulsoes e Silicones S/A Ind. e Com., Rua Gen. Dionisio 595, 25.000 Duque de Caxias, R.J. Cable: Bouquerel, tel.: 37-32. Dir. sale & resale & distrib.

Steel mill products

• **33100—PHILIPPINES**—900 tons penstock steel plates of ASTM A537 or equivalent quality. Project to be financed by IBRD loan. Tender No. NIAPHIL; bid deadline Oct. 15. National Irrigation Administration, 3rd floor APC Building, Diliman, Quezon City, Philippines. Contract documents available at $15 from Engineering Consultants, Inc., 1901 So. Navajo St., Denver, Col. 80223.

Rolling, drawing, extruding of nonferrous metals

• **33500—THAILAND**—15 KV class, copper cable, single conductor, insulated with cross linked polyethylene, insulated, PVC jacketed: 5,000 meters No. 2/0 AWG; 5,000 meters No. 500 MCM. Tender No. MEA-PSD-311; bid deadline Oct. 8. Purchases and Stores Department, Metropolitan Electricity Authority, 121 Chakpetch St., Bangkok, Thailand. Project financed by MEA budget. Tender documents available at above address at $5 per set.

Transmission equipment

• **34400—ICELAND**—Supply of one hundred and two 220-Kv. transmission line towers and guys. Delivery time not later than May 15. Price will be f.o.b. Norfolk. Terms of payment are 20 percent within 30 days; 70 percent against shipping documents; and 10 percent after guarantee of 365 calendar days. Bid deadline is Sept. 13. One set of tender documents may be reviewed in Room 2118, U.S. Dept. of Commerce, Washington, D.C. ★202-967-3602. Further sets may be obtained against a deposit of IKR 10,000 (about U.S. $100) which will be refunded upon receipt of a bid, from the bidletting authority: Mr. Eirikur Briem, Director, The National Power Co., Suderlandbraut 14, Reykjavik, Iceland (Cable: LANDSVIRKJUN; telex: 2054 LANDSV IS; telephone: 86400.) Ask for Contract Documents 203. The tender is financed by the Icelandic and Reykjavik Municipal Governments.

Generators

• **35100—CANADA**—Supply and installation of four 184 MVA vertical shaft waterwheel generators. Bid deadline Sept. 10. S. B. Peach, Manager Purchasing and Supply Dept., British Columbia Hydro and Power Authority, 970 Burrard St., Vancouver, B.C. Copies of tender documents available from the above address for $10.50 first copy, $5.25 each subsequent copy.

Chemical plants

• **35200—PERU**—Sistema Nacional de Apoyo a la Movilizacion Social Onams—Oficina de Planification—Centro Civico, 4th Piso, Lima 1, Peru, requests as soon as possible bids on poultry feed manufacturing plant. Plant capacity 12,000 metric tons per year (25 percent powdered and 75 percent in pellets or granulated). Raw materials to be used (in percent): corn 56 percent, cotton cake 3.5, fish meal 10, rice dust 10.80, alfalfa flour 1.50, bran 7.30, salt 0.50, bone flour 0.10, shell flour 3, molasses 7, and other additives 0.20. Plant location: Valle de Jequetepeque, Pacasmayo, Northern Peru. Project financed by the Agro-Industrial Cooperatives of Jequetepeque Valley.

• **35800—BANGLADESH** — The Government of Bangladesh issued a request for bids on six ice plants having ammonia direct expansion cooling system. Each plant to have 10-ton capacity with 50-ton storage. Tender No. BKB (ADB)/LS6X5)74; closing date Oct. 1. Tender documents may be obtained from Bangladesh Krishi Bank, 84 Motijheel Commercial Area, P.O. Box 357, Dacca 2. Price is $62.50. Bids should be submitted to the same address.

Communications equipment

• **36600—INDIA**—The Superintending Engineer, NH Technical (Electrical), Tamil Nadu Electricity Board, 157 Anna Salai, Madras 600002, India, has issued Tender No. IDA/TNEB/7 for power line carrier communication equipment according to specifications. Bid deadline is Sept. 30. This IDA-financed tender is open only to suppliers located in member countries of the World Bank and in Switzerland. Additional copies may be obtained from above address by sending a receipt for remitting RS 100 (approximately $13.33) to the Deputy Financial Controller, Madras Electricity Systems (Distribution), 1/155 Anna Salai, Madras 600002 noting the specification number (IDA/TNEB/7), or on short-term loan basis to firms located in U.S. from Science & Electronics Division, BDC-466, Room 1003, U.S. Dept. of Commerce, Washington, D.C. 20230, ★ 202-967-2328.

• **36600—PERU**—Alfonso Aguirre H., Gerente Abastecimientos y Servicios Auxiliares, has issued Tender No. Licitacion Publica No. 032-74 TC ENTEL for 70 echo suppressors for multiplex system for long distance service. Estimated cost $131,397. Further consultation can be made at Gerencia de Larga Distancia, 1675 Av. Circunvalacion, Lima 30, Peru; Tel. 28-7800—Ext. 29. Bid deadline Oct. 2 for qualification of bidder; Oct. 10 for actual bid. Purchase financed by ENTEL itself. Specifications available from above address for S/.1,000 ($23.05). Bidders should participate through local representatives. Correspondence in Spanish required.

• **36600 — NETHERLANDS/NATO** — The SHAPE Technical Centre, P.O. Box 174, The Hague 2076, Netherlands, has issued Tender No. 9980/PCO/995/74 for a consultant study on an electronic warfare test facility. This tender is classified NATO confidential therefore only U.S. firms with appropriate security clearances will be eligible to participate. Letters of intent should be submitted to the above

address prior to Sept. 13. Closing date for submission of bids is Oct. 1. Only firms certified by the U.S. Dept. of Commerce are eligible to bid on NATO procurement. U.S. firms interested in certification should contact the Science & Electronics Div., BDC-466, Room 1003, U.S. Dept. of Commerce, Washington, D.C. 20230, ★202-967-2328. Copies of tender announcement and specifications available on short-term loan basis to firms located in U.S. from same office.

Motorcycles, bicycles, parts

37510—GERMANY—Foot pedal-powered surface vehicle (pedal car). Quote c.i.f. European port. Reply to—Herr Ph. Witzler, 43 Essen, Rellinghasner Str. 216.

Instruments for measurement, analysis and control

• **38230—TAIWAN**—The Procurement Department, Central Trust of China, 49 Wuchang St., Sec. 1, Taipei, Rep. of China, has issued Tender No. GF-3-632172 for equipment for water supply control, raw water flow controller, etc. Bid deadline Oct. 2. Bids open for worldwide free countries to be given on C&F whole lot basis for shipment to Keelung within six months after receipt L/C. Copies of tender announcement and specifications available on short-term loan basis to firms located in U.S. from Science & Electronics Div., BDC-466, Room 1003, Dept. of Commerce, Washington, D.C. 20230, ★202-967-2328.

Surgical, medical, dental instruments

• **38400 — IRAQ** — The Foreign Purchasing Committee, Directorate General of Medical Supplies, Ministry of Health, Baghdad, Cable Address: FORHEALTH BAGHDAD has issued Tender No. 23/74 for supply of 800 electric sterilizers. Bid deadline is Sept. 30. Copies of tender announcement and specifications available on short-term loan basis to firms located in U.S. from Science and Electronics Division, BDC-466, Room 1003, U.S. Dept. of Commerce, Washington, D.C. 20230, ★ 202-967-2328.

Scrap & waste materials

50930—GERMANY—Paper, waste—selected corrugated cuttings, free of wax, other hot melts, hard white shavings, ruled hard whites; computer printouts. Would buy 25,000 to 50,000 M/T waste paper/yr. Quotations—for U.S. port or C.I.F. Bremen, Hamburg, or Rotterdam. Reply to Mr. Juergen W. Langheck, Juergen W. Langheck, Ulmer Strasse 34, D-7300 Esslingen A. N. Cable: Piazell Esslingenneckar; Tel.: 0711-359026, Telex: 07 256 400. Direct sale & rep.

Representations

Foreign private firms are interested in agency agreements and/or distributorships for these products.

Converted paper, paperboard products

26492—SWITZERLAND—Light crepe paper, 50 M/T/mo. Clupak bleached & semi-bleached paper (weight 70 to 80 grams/sq. m.); Kraft paper brown, bleached & semibleached (70 to 80 grams/sq. m.)—50 M/T/mo. of each. Seeks for a German end-user a mfr. of above papers in a position to supply monthly quantities as specified on continuous basis. Offers should be submitted with samples A.S.A.P. Reply to—Mr. Martin Erismann, A-Z Import-Export Gmbh, P.O. Box 191, 8617 Monchaltdorf.

Synthetic materials

28231—28232—MOROCCO — Acetate yarn, 300 & 600 derniers, all colors; rayon & viscose yarn, 300 & 600 dernier, all colors. Specializes in representation of finished & semi-finished materials for textile industry. Seeks excl. agency for listed products. Reply to—Mr. Driss El Alami, Etablissements El Alami Driss, 11 Rue Ibn Batouta, Casablanca. Tel. 27-26-19.

Computer, data processing services

7372X — SWEDEN — Computer software. Established 1967. According to local bank source, firm has sound economic standing, energetic and able management. Reply to—Mr. Leif Norrby, Data Logic AB, Ankdammsgatan 25, S-171 43 Solna, Sweden. Telephone: 08/730 09 70.

7372X—SWEDEN—Computer software. According to local bank information, this company was registered 1969 and has capable management. Reply to — Mr. Ivar Rock, Mandir, Savu AB, Box 22114, S-104 22 Stockholm 22. Telex: 17041; Telephone: 08/52 07 20.

Bulgarians Want To Produce Components For Brick Plants

TECHNIKA, the Bulgarian foreign trade enterprise responsible for purchasing licenses, would like to buy licenses from U.S. firms to manufacture the components listed below for brick plants.

Licenses are required for: Vacuum mills and presses for forming bricks; Automatic multi-wire guillotine-type cutting machines; Automatic machines for arranging bricks on furnace wagons (kiln carts); Automated transfer equipment to, through, and from tunnel ovens; Devices for packing sintered bricks.

Companies interested should telex (22277BG) or airmail in English to Engineer Lilo Choumanov, First Department, TECHNIKA, 10 Graff Ignatiev St., Sofia, Bulgaria. More detailed information may be obtained from D. Piggot, Trade Development Assistance Division, Bureau of East-West Trade, Room 4816, U.S. Department of Commerce, Washington, D.C. 20230, telephone 202-967-3352.

Future Construction Abroad

TUNISIA—The Government of Tunisia, Compagnie des Phosphates et du Chemin de fer de Gafsa, 9 Rue du Royaume de l'Arabie Seoudite, Tunis, invites firms to prequalify to bid to supply equipment and undertake necessary engineering construction to establish a new **underground phosphate mine** at Sehib in southern Tunisia. Prequalification deadline is Oct. 5. Financed in part by a $23.3 million loan from the World Bank (IBRD). Further information can be obtained from Jack Randolph, Commercial Action Group Near East, U.S. Department of Commerce, Washington, D.C. 20230. Tel.: 202-967-5737.

PANAMA—Instituto de Recursos Hidraulicos y Electrificacion (IRHE) has issued Notice of Invitation to Bid No. 433-74 for **supply, delivery, construction, testing and commissioning of a 230 kV (future/115 kV/34.5 kV. substation** at La Chorrera. Bid deadline Nov. 6 at the Purchasing Department, IRHE, Poli Building, Justo Arosemena Ave. & 27 East St., Panama City. IRHE has received a loan from the International Bank for Reconstruction and Development in various currencies equivalent to $30 million toward the foreign cost. All proposals must be made according to the laws of the Republic of Panama and the guidelines for procurements for World Bank loans, as detailed in the bid documents. Bid documents as well as all maps, plans, specifications, and proposal forms may be inspected at IRHE's office in Panama; Chas T. Main International, Inc., Prudential Center, Boston, Mass.; Stone & Webster Overseas Consultants Inc., 90 Broad St., New York, N.Y. 10004; or at Panamanian Embassies. The complete set of documents may only be obtained directly from the office of IRHE in Panama or through the mail from P.O. Box 5285, Panama 5, at a non-refundable payment of $50 per set.

SRI LANKA—The Government of Sri Lanka has issued notice inviting interested firms to apply for prequalification to bid on general contractor's services in relation to proposed U.S. $90 million **urea fertilizer project.** The plant will have a capacity of approx. 540 metric tons ammonia and 940 metric tons urea per day. Feedstock to be naphtha from adjacent petroleum refinery already in operation. The general contractor is expected to provide ammonia and urea processes (in association with subcontractors if necessary) and will act as enineering manager and construction manager for the entire project. Scientific Design Co., London, appointed a technical advisor to assist Sri Lanka State Fertilizer Manufacturing Corp. with prequalification and preparation of bidding documents. Interested firms can request prequalification application form from State Fertilizer Manufacturing Corp., P.O. Box 1344, Colombo 5, Sri Lanka, marked for Attn: T. Rodrigo, Project Manager. Forms also available from Scientific Design Co. Ltd., Bush House, Aldwych, London WC2B 4QB England, marked Attn: A. F. Prior. Completed forms deadline Oct. 15.

NICARAGUA—Empresa Nacional De Luz Y Fuerza (ENALUF) has received a loan from International Bank for Reconstruction and Development and Banco Centro Americano de Integracion Economica for financing a new **thermal power station.** The installation will consist of two 50-MW steam-driven turbogenerators to be located adjacent to Puerto Somoza at Punta Tiscuco, Nicaragua. The boilers will be fired with Bunker "C" oil. The condensers will utilize sea water for cooling purposes. The target date for commercial operation is January 1976. This announcement is for contracts to be awarded under Phase IV as follows: Phase IV (a) Shop Equipment—provides for manufacture, supply, fabrication, transportation for machine shop equipment; pipe and welding shop equipment; portable and hand tools; electric shop equipment; carpenter shop equipment; paint shop equipment; blacksmith shop equipment; warehouse shelving; forklift truck. Phase IV (b) Laboratory Items—provides for manufacture, supply, fabrication for chemical laboratory equipment; first aid equipment; instrument laboratory equipment; electrical laboratory equipment. Contracts under Phase IV (a) and Phase IV (b) shall be awarded as separate contracts or a combination thereof. Interested bidders are requested to register in writing with Empresa Nacional De Luz Y Fuerza or their consultants, The Kuljian Corp., at the addresses below. Bidding documents may be purchased also at the address below for U.S. $50 (not refundable) for three sets of bidding documents and one set of drawings. Additional sets will cost $15 per set. It is requested that bidder submit two complete sets with bid proposals. Documents will not be issued after Sept. 12. Bid deadline is Oct. 10. The Kuljian Corp., 1845 Walnut St., Philadelphia, Pa. 19103. Oficina De La Secretaria Del Consejo Directivo, Pista De Enlace, Apartado Postal No. 55, Managua, D.N., Nicaragua, C.A.

☆ U.S. Government Printing Office: 1974, 582-681/4

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***ATLANTA,** 30309, Suite 523, 1401 Peachtree St., NE. (404) 526-6000.

BALTIMORE, 21202, 415 U.S. Customhouse, Gay and Lombard Sts. (301) 962-3560.

BIRMINGHAM, ALA., 35205, Suite 200-201, 908 S. 20th St. (205) 325-3327.

BOSTON, 02116, 10th Floor, 441 Stuart St. (617) 223-2312.

BUFFALO, N.Y., 14202, Room 910, Federal Bldg., 111 W. Huron St. (716) 842-3208.

CHARLESTON, W.VA., 25301, 3000 New Federal Office Bldg., 500 Quarrier St. (304) 343-6181, Ext. 375.

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CLEVELAND, 44114, Room 600, 666 Euclid Ave. (216) 522-4750.

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***DALLAS,** 75202, Room 3E7, 1100 Commerce St. (214) 749-1515.

DENVER, 80202, Room 161, New Custom House, 19th and Stout Sts. (303) 837-3246.

DES MOINES, IOWA, 50309, 609 Federal Bldg., 210 Walnut St. (515) 284-4222.

DETROIT, 48226, 445 Federal Bldg. (313) 226-3650.

GREENSBORO, N.C., 27402, 203 Federal Bldg., W. Market St., P.O. Box 1950. (919) 275-9111, Ext. 345.

HARTFORD, CONN., 06103, Room 610-B, Federal Office Bldg., 450 Main St. (203) 244-3530.

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MILWAUKEE, 53203, Straus Bldg., 238 W. Wisconsin Ave. (414) 224-3473.

MINNEAPOLIS, 55401, 306 Federal Bldg., 110 S. Fourth St. (612) 725-2133.

NEW ORLEANS, 70130, Room 432, International Trade Mart, 2 Canal St. (504) 527-6546.

***NEW YORK,** 10007, 41st Floor, Federal Office Bldg., 26 Federal Plaza, Foley Sq. (212) 264-0634.

NEWARK, N.J., 07102, Gateway Bldg. (4th floor) (201) 645-6214.

***PHILADELPHIA,** 19106, 10112 Federal Bldg., 600 Arch St. (215) 597-2850.

PHOENIX, ARIZ., 85004, 508 Greater Arizona Savings Bldg., 112 N. Central Ave. (602) 261-3285.

PITTSBURGH, 15222, 431 Federal Bldg., 1000 Liberty Ave. (412) 644-2850.

PORTLAND, ORE., 97205, 921 S.W. Washington St., Suite 521, Pittock Block. (503) 221-3001.

RENO, NEV., 89502, 2028 Federal Bldg. 300 Booth St. (702) 784-5203.

RICHMOND, VA., 23240, 8010 Federal Bldg., 400 N. 8th St. (804) 782-2246.

ST. LOUIS, 63105, Chromalloy Bldg., 120 S. Central Ave. (314) 622-4243.

SALT LAKE CITY, 84111, 1201 Federal Bldg., 125 S. State St. (801) 524-5116.

***SAN FRANCISCO,** 94102, Federal Bldg., Box 36013, 450 Golden Gate Ave., (415) 556-5860.

SAN JUAN, P.R., 00902, Room 100, Post Office Bldg. (809) 723-4640.

SAVANNAH, 31402, 235 U.S. Courthouse and Post Office Bldg., 125-29 Bull St. (912) 232-4321, Ext. 204.

SEATTLE, 98109, 706 Lake Union Bldg., 1700 Westlake Ave. North (206) 442-5615.

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